Concordia University St. Paul

DigitalCommons@CSP

CUP Ed.D. Dissertations

Concordia University Portland Graduate Research

Summer 7-26-2018

The Efficacy of Coaching Interventions forUndergraduates to Increase Positive Coping Behavior: A Quantitative Quasi-Experiment

Anthony Jackson
Concordia University - Portland, tony.jackson1911@yahoo.com

Follow this and additional works at: https://digitalcommons.csp.edu/cup_commons_grad_edd

Part of the Education Commons

Recommended Citation

Summer 7-26-2018

The Efficacy of Coaching Interventions forUndergraduates to Increase Positive Coping Behavior: A Quantitative Quasi-Experiment

Anthony Jackson
Concordia University - Portland

Follow this and additional works at: https://commons.cu-portland.edu/edudissertations

Part of the Education Commons

Concordia University–Portland

College of Education

Doctor of Education Program

WE, THE UNDERSIGNED MEMBERS OF THE DISSERTATION COMMITTEE

CERTIFY THAT WE HAVE READ AND APPROVE THE DISSERTATION OF

Anthony Charles Jackson

CANDIDATE FOR THE DEGREE OF DOCTOR OF EDUCATION

Audrey Rabas, Ph.D., Faculty Chair Dissertation Committee

Peggy Dupey, Ph.D., Content Specialist

Brian Roland, Ph.D., Content Reader

Concordia University–Portland

2019

The Efficacy of Coaching Interventions for Undergraduates to Increase

Positive Coping Behavior: A Quantitative Quasi-Experiment

Anthony Charles Jackson

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Transformational Leadership

Audrey Rabas, Ph.D., Faculty Chair Dissertation Committee

Peggy Dupey, Ph.D., Content Specialist

Brian Roland, Ph.D., Content Reader

Concordia University–Portland

2018

Abstract

Across the United States, many administrators on college campuses are attempting to respond to the increased student need for mental health services; however, there is concern about colleges' ability to meet the demand for mental health services in the long term. Using Folkman and Lazarus' theory of transactional stress and coping, this quantitative quasi-experimental study attempted to determine if a significant difference in coping existed among participants both taking part and not taking part in a life-coaching program across time and if there was a significant mean difference in coping scores between participants who participated in a life coaching program compared to those who did not. One hundred twenty-one undergraduate Florida college students were randomly assigned to either a quasi-experimental or comparative group. Participants in the quasi-experimental group accessed material from a four-session online life-coaching program and those in the comparative group did not. The Ways of Coping Questionnaire was administered online to both groups at baseline and four weeks after the intervention. Using an independent samples t-test comparing end-of-study subscale means to baseline means, the quasi-experimental group had statistically significant improvement on six of eight subscales whereas the comparative group had statistically significant improvement on five of the eight subscales. Quasi-experimental group participants made more progress than the comparative group on two subscales. Alternative approaches to student mental health that focus on crisis prevention, rather than intervention, may be useful in addressing college student problems.

Keywords: mental health, coping skills, online life coaching, undergraduates

Table of Contents

List of Tables

Chapter 1: Introduction

Attending college represents a major upheaval for most students. This transition may involve leaving family and friendship networks, adapting to new living arrangements, and taking greater responsibility for self-monitoring behavior. With increased independence comes a level of decision-making that students may have not previously experienced. This may include making new friends in an uncontrolled environment, experiencing rigorous academic expectations with less supervision, and being more responsible for managing time and resources (Novotney, 2014).

The number of college students who report distress serious enough to interfere with their studies has rapidly increased over the past few decades (Dinger, Brittain, & Hutchinson, 2014). College counseling center directors in the United States have reported increased severity of students presenting problems with campus counseling center usage rates at record highs (Center for Collegiate Mental Health, 2017). However, concern exists about the ability of traditional campus mental health delivery systems to keep up with the demand for services. Alternative approaches that focus on crisis prevention rather than intervention might be useful in addressing these problems, given the current strain on resources.

Background, Context, History, and Conceptual Framework for the Problem

For many students, the pressures associated with increased independence come with increases in distress (Hershner & Chervin, 2014). The American College Health Association (ACHA) regularly surveys U.S. college students regarding their mental health status. In 2014, the ACHA found that "during the preceding month, 65.8% of college students felt exhausted; 37.5% felt very sad; 36.1% felt very lonely; 25.9% felt things were hopeless; and 15.8% felt so depressed it was difficult to function as a student" (as cited in Dinger et al., 2014, p. 13). For

some students, college entry is also associated with increased risk for diagnosable mental health conditions. As reported by Novotney (2014), in 2013 the National College Health Assessment examined 125,000 students from more than 150 colleges and universities finding "above one-third of U.S. college students had difficulty functioning in the last 12 months due to depression" (p. 36). Novotney also reported that suicide is a high concern for professionals according to Ben Locke from Penn State. According to Novotney, "More than 30% of students who seek services for mental health issues report that they have seriously considered attempting suicide at some point in their lives, up from about 24 percent in 2010" (p. 36).

Many college administrators are responding to the increased need for mental health services by initiating more programming. Mental Health First Aid (MHFA) is a 12-hour course offered to campus faculty, administrators, and student leaders to help them recognize early warning signs of a mental health crisis in students and intervene before the problem progresses to a crisis (Futo, 2011). The National Institutes of Health (NIH) is funding MHFA on many campuses across the country (Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014).

Researchers have suggested that 12%-18% of students in college are receiving treatment for a mental disorder (Kruisselbrink, 2013). Psychological treatment can be highly effective among college students who receive treatment (Aradilla, Tomas, & Gomez, 2014; Slavin, Schindler, & Chibnall, 2014). Even with the increases in programming, however, most university mental health programs do not identify and reach out to students who may benefit from support, possibly because counselors are overwhelmed with referrals (Association for University and College Counseling Center Directors, 2016). Prevention-oriented programs may help students to better orient to and adapt to college life before transition-related issues escalate into mental health crises.

This study evaluated an online life-coaching model as a primary prevention strategy for undergraduate students. Literature exists on the topic of efficacy of life skills coaching interventions for college students with a focus on helping students adapt to college (Badra, 2014; Gaffney, 2016; Sancrant, 2014). This study attempted to identify if a specific intervention was efficient in supporting student growth in the ability to participate in healthy activities while reducing negative mental health concerns. The findings of this study may be useful to university personnel assisting college students to adapt and cope with the novel experience of college life.

An option for prevention-oriented programming is life coaching, implemented by healthcare providers for several years to help people with diverse health-related issues (Ammentorp et al., 2013). According to Stober and Grant (2006), the primary goal of life coaching is to initiate behavioral changes that will facilitate goal attainment and performance enhancement. An investigation of life coaching studies on health outcomes (e.g., blood pressure, weight, quality of life, physical activity, depression, and emotional distress) concluded that life-coaching programs have a significant and beneficial affect (Newnham-Kanas, Gorezynski, Morrow, & Irwin, 2009). This study had the goal of determining the effectiveness of a brief life-coaching program with the aim of improving college students' coping skills.

Statement of the Problem

There is limited quantitative research regarding college student persistence and success in college as well as limited literature on prevention models (Badra, 2014; Gaffney, 2016; Sancrant, 2014). This study was an attempt to fill a literature gap regarding the effectiveness of life-coaching programs for college students' positive adaptation to college life (Aradilla et al., 2014; Slavin et al., 2014). Specifically, this study examined the effectiveness of life coaching as an intervention to support students as they adapt to college life. This study used a quasi-

experimental design to assess whether a brief online preventive model improved undergraduates'

coping skills.

Purpose of the Study

The purpose of this quasi-experimental study was to determine the effectiveness of a

brief 4-week, online coaching preventive model in increasing positive coping behaviors in

undergraduate college students. The life-coaching model addressed health-related and social

activities. Life coaching may encourage students to hold themselves accountable for their own

actions. For example, a student who smokes cigarettes would be able to identify that smoking is

an unhealthy decision. Once the student takes responsibility, the next step would be for the

individual to identify the proper steps to stop smoking and explore options for getting exercise

throughout the day.

College students experience often experience high levels of stress, particularly during

their first year. If students do not cope well with this normative stress, they can experience

health and mental health problems. Stress can arise from several changes that take place

relatively quickly for students. This can include changes in sleeping and eating routines,

changing interpersonal relationships, losing familiar social supports, learning and adapting to

new technology, and increased academic stress. Students who could focus on coping skills might

weather these changes with fewer long-term consequences.

Universities across the country could benefit from the results of this study. The results

could be used for training professional staff members regarding how to strategically intervene

with students to prevent crises and relieve responsibilities placed on counseling centers (Pedrelli,

Nyer, Yeung, Zulauf, & Wilens, 2015). Additionally, student retention and graduation rates

could improve if students have fewer negative experiences that affect their academic performance.

Research Questions

For this quantitative study, the between-subjects independent variable was the group (quasi-experimental / comparative) and the within-subjects independent variable was time (time 1 pre-intervention/time 2 post-intervention). Participants were randomly assigned to either the quasi-experimental or comparative group. The quasi-experimental group (Group A) received the intervention and comparative group (Group B) received no intervention. The dependent variable was student coping skills. Based on the identified research problem, the following research questions, corresponding null hypotheses, and alternative hypotheses guided the research process:

RQ1: What difference exists in the Ways of Coping Questionnaire (WOC) scores among participants taking part in a life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

H1$_0$: There is no mean difference in WOC Questionnaire scores among participants from pre-intervention to post-intervention.

H1$_A$: There is a mean difference in WOC Questionnaire scores among participants from pre-intervention to post-intervention.

RQ2: What difference exists in WOC Questionnaire scores among participants who did not participate in the life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

H2$_0$: There is no mean difference in WOC Questionnaire scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

H2~A~: There is a mean difference in WOC Questionnaire scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

RQ3: What difference exists in WOC Questionnaire scores between participants who participated in the life coaching program and those who did not participate in the program?

H3~0~: There is no mean difference in WOC Questionnaire scores between participants who participated in the intervention and those who did not participate in the program.

H3~A~: There is a mean difference in WOC Questionnaire scores between participants who participated in the program and those who did not participate in the program.

Rationale, Relevance, and Significance of the Study

Over three decades ago, Lazarus and Folkman (1985) developed a transactional theory of stress and coping that is still dominant today. Stress is the perception that environmental demands have overwhelmed one's ability to cope. Resilience is the ability to adapt to new experiences in ways that make them normative and less overwhelming (Lazarus & Folkman). Their work contributed to several stress-reduction intervention approaches. The transactional model of stress has remained the predominant model of stress and coping function, in part due to its ability to enable multifactorial research and intervention (Gress-Smith et al., 2015; O'Hara, Armeli, Boynton, & Tennen, 2014). Still, the growing influence of positive psychology (Schwitzer, 2016; Wright, 2017) and post-traumatic growth (Calhoun & Tedeschi, 2014) in the counseling field have ignited interest in prevention approaches. Prevention approaches aim to support people who are entering situations that typically produce stress to activate their resilience (Gaffney, 2016).

Upon entering college, most students experience stress as they grapple with changing their dwelling, entering new relationships, experiencing a higher level of academic demand, and

making more daily decisions with less oversight from adults (Association for University and College Counseling Center Directors, 2016). Research shows an increase in stress-related problems among this population over the past decade, including anxiety, depression, frequency of physical illness, and somatization (Bettis et al., 2017; Center for Collegiate Mental Health, 2017). The perception that stress is overwhelming can exacerbate these problems even when they are not directly attributable to stress (Dinger et al., 2014). There have been few prevention models developed specifically for college students.

This research was an attempt to test the efficacy of a brief prevention approach to stress reduction. Over three decades of research has shown that a range of populations can learn coping skills that increase their ability to manage their lives and life's inevitable crises more effectively. Coaching, a primary prevention model that originated in public health, holds potential for improving undergraduate coping skills (Steinhardt & Dolbier, 2008). Because the research suggests a high level of mental health needs among college students, calls for more research and implementation of prevention programs are not intended as a substitute for student mental health services but as a useful complement to such services.

Developing a universal system that will allow universities to take a different approach toward students and better assist in such difficult situations could be beneficial to the overall structure of the system (Harris-Caldwell, 2015). Universities across the country could benefit from the findings of this study for training professional staff members on how to strategically intervene with students in crisis, decrease the risk that distress will escalate, and relieve some of the responsibilities placed on the counseling center (Pedrelli et al., 2015).

Definitions of Terms

The following is a list of terms frequently used in this study and an operational description of each term:

Coping: Coping means strategies used to reduce environmental demands for the purposes of managing them (Folkman & Lazarus, 1988).

Life coaching: According to Wolever et al. (2013):

> [Life coaching] is … a patient-centered approach wherein patients at least partially determine their goals, use self-discovery or active learning processes together with content education to work toward their goals, and self-monitor behaviors to increase accountability, all within the context of an interpersonal relationship with a coach. (p. 38)

Primary prevention: A primary intervention in this study refers to a defined set of activities delivered in a systematic way with the aim of reducing the need for more intensive services (Sallis, Owen, & Fisher, 2015).

Resilience: Resilience is the ability to recover from disruptions in functioning that result from stress appraisals and returning to the previous level of functioning (Tang, Jang, & Carr-Copeland, 2015).

Stress: In this study, stress is a transaction between the person and the environment whereby individuals appraise environmental demands as outweighing their abilities to meet those demands (Folkman & Lazarus, 1984).

Assumptions, Delimitations, and Limitations

When planning any research project, the researcher must make assumptions about the design and identify possible limitations (e.g. barriers to generalization due to the chosen design).

This study assumed that the quantitative method addressed the necessary data collection and data analysis of the research. This researcher also assumed that the university selected for this study sufficiently represented the general population.

Delimitations are those characteristics that limit the scope and define the boundaries of a study (Simon, 2011). This researcher anticipated three main delimitations in the study. The first delimitation was that participants were delimited to students who live on and off campus of one Florida university in this study. Therefore, the results may be generalizable only to the group studied. The second delimitation was that that only students who self-reported as undergraduates (first year through fourth year) were considered for participation. The last delimitation was that the data collection period was delimited to one term, the 2018 spring semester. Therefore, events that occurred unique to this term may have impacted the coping skills of participants.

Limitations are flaws or factors inherent in the research design that the researcher has no control over but can compromise the accuracy of the study results (Simon, 2011). This researcher anticipated three limitations that affected the study results. The first limitation was that using a convenience sampling procedure prevented generalization of results to all undergraduate college students. For instance, because the student participants identified that urban living causes additional stress, the finding may not be applicable to students in a rural setting with little knowledge of urban life. A second limitation was that this researcher relied on self-reported data from the participants. Self-reported data are subject to error due to exaggeration, recall problems, and social desirability bias (Gittelman et al., 2015). The third limitation was that neither this researcher nor the participants were blind to whether participants were in the quasi-experimental group or the comparative group. Randomization minimizes

differences between treatment groups, but it does not prevent differential treatment of groups in ways that could affect results.

Summary

There is limited quantitative research regarding the effectiveness of a coaching preventive model for increasing positive coping behaviors in undergraduate college students; however, previous researchers have suggested that significant stressors among college students could potentially be resolved if there is enough mental and psychological intervention provided (Aradilla et al., 2014; Badra, 2014; Gaffney, 2016; Sancrant, 2014; Slavin et al., 2014). The purpose of this quasi-experimental study was to determine the effectiveness of a brief 4-week, online coaching preventive model for increasing positive coping behaviors in undergraduate college students.

For this study, students were randomly assigned to one of two groups. Three research questions guided this study to measure changes in positive coping behaviors using the WOC (Folkman & Lazarus, 1984) among participants taking part in a life-coaching program from pre-intervention to post-intervention. This study, likewise, evaluated whether there is a significant change in the scores of the participants who did not participate in life coaching. Chapter 2 provides a comprehensive review of the current literature to justify the need for conducting this research, followed by Chapter 3, which provides a comprehensive outline for the purpose of the study as well as the research question and associated hypotheses. It will also address the study design and methods, including ethical considerations, participant recruitment, random assignment, and operationalization of variables. Chapter 4 reports the results from this study, and Chapter 5 will include the findings as related to those found in the literature review.

Chapter 2: Literature Review

Introduction to the Literature Review

This dissertation study focused on the effectiveness of a life-coaching program on undergraduate student coping skills. According to Dinger et al. (2014), the number of college students who reported distress serious enough to interfere with their studies rapidly increased over the past few decades. Poor coping among college students may be associated with drug and alcohol intoxication, depression, sleep deprivation, mood disorder, and suicide (Center for Collegiate Mental Health, 2017). Suicide is an immediate and permanent response; however, there are non-lethal consequences to such conditions, with possible long-range effects leading the individual to more severe concerns or the possibility of violence or self-injury (Harris-Caldwell, 2015).

Although studies suggest that significant stressors among college students can be resolved if there is enough mental and psychological intervention (Aradilla et al., 2014; Slavin et al., 2014), the availability of mental health services on college campuses remains limited. More research is needed regarding mental health prevention programs that help college students succeed socially, emotionally, and academically before they experience a crisis that requires intensive attention (Badra, 2014; Gaffney, 2016; Sancrant, 2014).

The information in this chapter was obtained through searching and utilizing different resources in the Concordia University Library. Resources were found in the Concordia University Database. The database included literature from EBSCO host, ProQuest, JSTOR, academic journals, dissertations, theses, and books. The key terms searched were "coping behavior," "positive coping," "mental health," "college students," "stress," "interventions," and "barriers to academic success." In addition to a conceptual framework and a thorough review of

literature, a review of methodological issues, a critique of previous research, and a synthesis of previous research will be discussed in this chapter.

Conceptual Framework

The transactional model of stress and coping proposes that while the risk of poor choice-making increases under heightened stress, stress does not necessarily lead to poor choices and outcomes (Folkman & Lazarus, 1984). Without good coping skills, individuals can feel easily defeated by negative events. Coping skills give individuals opportunities to surmount difficulties and return to their prior level of functioning; this is known as resilience. Following the work of Folkman and Lazarus (1985), O'Leary and Ickovics (1995) later enhanced the original model to include thriving, which refers to reaching a higher level of functioning and well-being than was experienced before the crisis.

Research addressing the topic of resilience has culminated in supports such as the transactional model, psychological movement, and disability services, including those for post-traumatic stress disorder (Calhoun & Tedeschi, 2014; Schwitzer, 2016; Wright, 2017). People with high resilience levels are more likely to perceive change and stressful situations as a challenge to overcome; these individuals often believe they can have a positive effect on their circumstances in ways that improve their lives. People with low resilience levels encounter stress as a threat to their security or survival; they are unlikely to take initiative and reflect a sense of victimhood and powerlessness.

Resilience is often misinterpreted as an innate quality that enables some people to "bounce back" more easily than others from stressful events. However, resilience is not stable and predictable over the life course in the way that optimism and pessimism tend to be (Vohs & Baumeister, 2016). The term resilience does not refer to a trait, but rather it refers to having an

expanded range of strategies for coping with adverse events; consequently, resilience can be treated as an acquired skill for most people (Vohs & Baumeister, 2016; Wright, 2017). As discussed, the approach used for addressing resiliency depends on the individual student and setting encountered.

Expanding on the previous discussion, the historical context of the transactional model of stress and coping risk refers to stressors that have the potential to undermine resilience (Folkman & Lazarus, 1988). Experiencing a known risk for mental health problems, such as military combat or witnessing a murder, does not mean an individual will develop a mental health disorder, but it does increase the probability that a person's coping system will be overwhelmed. Furthermore, low resilience does not imply personal weakness, but it is usually related to one of three possibilities (Sallis et al., 2015). First, an individual may have been exposed to poor coping patterns or never exposed to good coping patterns. Second, an individual may experience an acutely frightening or extraordinary event that overcomes their coping skills that ordinarily would serve them well. Third, studies have shown that when poverty, illness, personal loss, or severe mental health problems are repeatedly experienced over time, a person's resilience is compromised (Nelson, 2017). Both high resilience and low resilience individuals experience fear, sadness, depressed mood, and disappointment. By learning how to minimize stress and elevate mood when facing difficult or challenging tasks, people can improve their coping skills (Cukor, 2013).

Review of Research Literature

College student mental health issues. The ACHA reported that an increasing number of mental health issues are reported on college and university campuses across the country. The ACHA identified 65.8% of college students reported feeling exhausted; 37.5% felt very sad;

36.1% felt very lonely; 25.9% felt things were hopeless, and 15.8% felt so depressed it was difficult to function as a student (Dinger et al., 2014). Prevalence rates of depression among U.S. college students have been reported as high as 22% (Geisner, Neighbors, & Larimer, 2006).

The age at which many mental disorders manifest symptoms is between 18 and 24 years (Kessler et al., 2007), which coincide with the average age of traditional undergraduate students enrolled in higher education. However, utilization rates of mental health services are low among college students, particularly those experiencing depression (King et al., 2015; Pedrelli et al., 2015). A history of depression or anxiety in childhood or adolescence is a significant predictor of using mental health services for college-aged individuals (Gress-Smith et al., 2015; O'Hara, Armeli, Boynton, & Tennen, 2014).

Many students engage in behaviors that place their health and wellbeing at risk. According to Novotney (2014), some of the most common behaviors include binge drinking, unsafe driving, and unprotected sex. Some of these behaviors emerge in adolescence, but in most families, parents and other adults serve to constrain the frequency of these behaviors during secondary school. With reduced oversight upon entering college, some students may engage in risky behaviors more frequently. These risky behaviors may be integrally connected with academic performance and global wellbeing (Novotney, 2014). Sancrant (2014) found that these risky behaviors, particularly binge drinking, in combination with mental health problems, are more likely to result in a student's early departure from higher education institutions.

According to Anastopoulos and King (2015), coping can be understood as attempts of the individual to use personal and social resources that assist with handling stress reactions and to carry out specific actions to modify problematic aspects of the environment. The authors described that the transition from upper secondary to higher education is a period of great change

for young students, especially when it involves leaving home and the social demand for greater autonomy. This change encompasses several problems that meet the demands of the contexts and developmental characteristics of academics, implying also a social and emotional adjustment or the acquisition of coping strategies that will allow students to act in the new context (Anastopoulos & King, 2015). The expectation of adaptation to transition to university is characteristic of each person and determined by the interaction of two sets of factors: (a) internal, such as the vulnerability of the individual to stress; (b) external, such as the complexity and capacity of the environment to respond to the needs of the individual.

Mahmoud, Staten, Lennie, and Hall (2015) report that, in the educational field, attention has increasingly been focused on the evaluation of coping strategies, due to their importance for young people subjected to stress and stress in work and study environments, increasingly competitive. It is recognized that the use of these strategies is not restricted to the school environment, as they relate to issues such as obtaining analysis of information organization, communication of ideas and information, planning teamwork and solving problems such as how to seek the advice of others or talk about their own problems with others. The authors also stressed that in university students stems from the competitiveness of the academic environment and the need to develop new skills to face situations present in this context.

Baker and Siryk (1989) showed four dimensions related to the integration-adaptation of the student to the university: (a) the adaptation of the academic: regarding the attendance of the educational demands that the institution presents to the student; (b) relational/social adjustment: referring to the interpersonal and social demands of university life; (c) personal-emotional adjustment: referring to the psychological and physical state of the university; and (d) commitment to the institution/adherence: pointing to the quality of the adjustment between the

15

student and the institution. The results of the study demonstrated that in situations of coping, both sexes used the active cognitive method more focused on the problem. The method of coping less used by both sexes was the avoidance.

Folkman and Lazarus (1980) and Billings and Moos (1981) pointed out that only the avoidance method should be considered less effective in coping with stressful situations, since it does not promote an active search for a solution to the problem, avoiding confrontation with it. Females presented a higher correlation between the avoidance method and the focus on emotion. Differently, the highest correlation for males was between active behavioral method and focus on the problem.

Some studies have reported differences related to gender and age in the use of Coping strategies (Mahmoud et al., 2015). It has also been found that sex can influence the choice of coping strategies because men and women are socialized differently. Women can be socialized to use pro-social or avoidant coping strategies, while men can be socialized to be independent and use competitive coping strategies (Lopez & Little, 1996).

Prevatt (2016) added that in the face of many stressful events, women tend to use more coping strategies aimed at emotional stability such as relaxing, seeking fun, and investing in close relationships rather than acting actively the stressor. In the study, the students, in relation to coping, presented in the initial stage in a homogeneous way. At the end of the course, there were some variations, according to the center. The author also noted that the Community Counseling Students Association uses more problem-focused coping; that is the effort to change or manage some aspects of a person, environment, or relationship perceived as stressful. The County Court Judgment uses more of the behavioral-behavioral method, and the Couples Coping Enhancement Training uses the active-cognitive method. Active coping efforts are related to a

more positive adjustment. The female sample uses the problem-focused active-behavioral method more. The male sex presents only a significant variation, in which the students of the Community Counseling Students Association use at the end of the course. More focus is on the problem in the same way as the female sex.

Peer relationships can also influence risk-taking behavior. Smith, Finneran, and Droppa (2014) used a qualitative research method that provided intensive and thoughtful analysis of a serious health-risk behavior. The study found that students' decision to drink was highly influenced by peers. Many college rituals such as pre-game activities appear to enhance the drinking practice or make it more acceptable by normalizing it with rituals among friends or drinking partners. Colleges and health professionals could use the finding in the Smith et al. study to pinpoint risky alcohol behaviors by a population of students that have not been extensively studied.

Sancrant (2014) recommended that faculty and staff should be utilized as a resource in the process of identifying and supporting students with mental health issues. The author conducted a qualitative phenomenological study using semi-structured interviews with 12 faculty members and 12 non-instructional staff members at a community college. The purpose of the study was to explore the college's experiences in identifying and supporting students struggling with mental health issues. Sancrant revealed five important themes when working with students struggling with mental illness or related problems: boundaries, connection, referral, awareness, and follow-up. The data indicated the need for increasing the awareness of interventions and procedures among the entire campus community as well as professional development focusing on mental health-related topics.

Similarly, Pecka (2011) researched the challenges and adversities that students face during their first year of entering higher education. The author's data revealed community college students surpass most individuals enrolled in the United States higher education system; however, little research has specifically examined the mental health needs of these students and whether such issues negatively affect student academic performance. Pecka collected quantitative data from a voluntary survey administered to students enrolled in the fall term's freshman orientation courses. The author's findings provide evidence of the presence of mental health concerns among first-year community college students. Social anxiety and academic distress are the most commonly reported difficulties. Counseling services and the use of psychotropic medication are the most frequently used types of mental health treatment. Students who report higher levels of academic distress also report more depression and generalized anxiety symptoms.

According to Thomas (2015), "Colleges and universities throughout the country have noted an upsurge in the number of students seeking psychological services as well as an increase in the severity of symptoms reported" (p. 23). Compared to university students, community college students are more likely to face mental health problems and to struggle academically. The author's findings suggested that students in distress may turn to faculty whom they see on a regular basis and develop trust in, thus placing faculty on the front lines of student crises. Implementing a curriculum of life coaching programs could influence a bond between the staff member and student, which would allow the student to express any concerns to the faculty member. The Thomas study investigated full-time faculty members' attitudes, beliefs, knowledge, and experiences with identifying, approaching, and referring 2-year college students with mental illness.

Focusing on the experiences of college juniors and seniors with mental health challenges, Gaffney (2016) applied a grounded theory analysis for a deeper understanding of why college students experience mental health crises. The author reported that six themes emerged after conducting the initial study. The results revealed that shared experiences; the role of relationships, campus integration; the development of a personal identity inclusive of mental health challenges; the role of campus services; and the role of self-care are all major factors that emerged from interviewing each participant. These phenomena consisted of experiences and perceptions the participants described as fundamental during their time as students and inextricable to how they were able to negotiate their time as students. However, in contrast, the American College Health Association (2014) discovered that 49% of students listed stress, anxiety, or depression as the primary barriers to stronger academic performance.

The effect of mental health problems on student achievement. To date, several studies have reported on the effects that mental health stress can have on college student achievement (Gaffney, 2016). Gaffney reported that students experienced symptoms that disrupted their academic progress; stigma, and the fear of stigma; alternate academic paths; and access to and use of mental healthcare. It is evident that relationships, positive academic integration, the development of a mental health identity, the nature of campus services, and the development of self-care skills are linked to success. Sancrant (2014) also provided evidence that mental health problems can often be the reason for students' early departure from institutions of higher education. The author indicated that 86% of students with mental illness withdraw from college before completing their degree, compared to a 37% withdrawal rate of the general population.

According to Prevatt (2016), the most frequent strategies among adolescents are the various forms of active coping (such as hazard control and seeking social support) and various forms of internal coping (such as problem solving planning and passive and active distraction), and less frequent strategies involve self-destruction, aggression, confrontation coping, withdrawal, relaxation, and anxiety control. In the study for both sexes, the most mentioned stress situations were (a) problems of interpersonal relations, and (2) academic issues. However, in coping with events related to other people, the female sex uses more of the behavioral-behavioral method.

In accordance with the findings, Theeboom, Beersma, and Van Vianen (2016) reported that students face high proportions of problems related to education and learning situations that are concentrated at certain times of the year and need to be classified in a standardized way. Entering college, leaving home, living with a new group, beginning a new course and exams are presented as data in life event inventories and come from two sources. The study also elucidates that the experience of joining the university will differ for some young people because they are far from home, because ties will be broken, and a totally new course begins, while for others the movement will involve minor changes. In addition, additional events occur, such as: ending intimate relationships (dating), illness, death or accidents in the family which result in increased stress among students.

The literature on stress and mental health suggests that individual differences in adaptation to stress situations are the result of social and coping resources used in the face of the challenge (Compas, 1987; Lazarus & Folkman, 1984; Losoya, Eisenberg & Fabes, 1998). It should be added that coping's efforts serve as moderators of the effects of negative everyday events on psychological well-being and that certain coping styles are related to better adaptation.

Among the strategies mentioned are the enhancement of interpersonal relationships with relatives, boyfriends, friends and colleagues, the search for a better balance between study and leisure, as well as the provision of time to practice physical activity, take care of food, sleep and take care of health. Emphasis was also placed on working with one's personality, seeking to feel happy and in good spirits, avoiding feeling stressed or pressured by unfavorable situations. While some students mentioned that they can cope naturally with stressful situations in the process of being a medical student, some have had to seek professional assistance from a psychologist, while others are failing to deal with the stress they are undergoing, which influences their health. Those who deal well with stress situations reported that this stems from personal characteristics that allowed them to stay well even when most considered their quality of life impaired.

Gaffney's (2016) research involved a qualitative study examining college student mental health challenges that affect enrollment. The review provided evidence that, after implementing interventions, juniors and seniors do complete college. The study involved 24 participants through convenience and purposive sampling. Participants who self-identified as having been diagnosed with a mental health challenge, having completed at minimum of 60 academic units, and having maintained a GPA of 2.0 were included in the study. The students selected for the study were challenged by different mental health diagnoses including anxiety, depression, bipolar disorder, obsessive-compulsive disorder, post-traumatic stress disorder, addiction, autism spectrum disorder, attention deficit disorder, traumatic brain injury, and eating disorders. Recommendations from the author included proper counseling of the students to ensure that they are aware of the support available from their universities.

Several studies were conducted citing both the importance of documenting issues and ensuring faculty and staff are trained to identify mental health issues on campus. The contribution of Gaffney (2016) is its ability to document mental health needs of college students and the importance of inclusive learning environments; however, it did not explicitly address the demand for campus prevention services focused on behavioral needs. According to Schwartz and Friedman (2009), the acutely distressed student, who exhibits a disturbing or disruptive behavior that is outside of the norm of other students due to significant mental illness and who may be at risk to harm oneself or others, poses considerable challenges to today's higher education institutions. The authors' goal was to conduct a qualitative exploration of the factors that encouraged the intentions of faculty to respond to a college student experiencing a crisis. Schwartz and Friedman attempted to identify factors and better empower faculty to participate in campus-wide mental health promotion and suicide prevention strategies. And finally, Wood (2012) stated that traditional strategies, such as training promoted campus-wide and being able to identify who is at risk of mental illness, can sometimes be the deciding factor in how many mental health incidents can be prevented. Continuing the topic of campus support and assessing mental health counseling is necessary.

Past researchers have also reviewed the services available to students while continuing to identify the abundance of mental health issues that have occurred. In another study, Benjamin (2005) assessed mental health counseling services provided by Florida public community colleges and universities. The author asserted that one of the more traumatic events for college students is the experience of a mental health-related incident. While there are immediate consequences to such incidents, the long-range effects of these experiences often lead the individual to more severe concerns or the possibility of violence or self-injury (Harris-Caldwell,

2015). The literature indicates significant mental health behaviors are reported by community college students. The most common behaviors identified are anger, sleep disorders, depression, anxiety, personality disorders, repetitive thought disorders, substance abuse, suicide, and psychosis (Harris-Caldwell, 2015). These common behaviors should be determinative factors if students are inclined to develop mental health issues.

When reviewing the impact on student achievement, Elliot (2010) found that depression and anxiety are the top two mental health behavioral problems facing college students. Additionally, almost 70% of women and more than 50% of men have experienced feelings of hopelessness at least once within the last 12 months. While not directly attributed to achievement, Harris-Caldwell (2015) also identified the impact of specific behaviors such as anger, sleep disorders, anxiety, personality disorders, repetitive thought disorders, substance abuse, suicide, and psychosis have led to an increased risk for violence on college campuses.

Due to these factors, these students will most likely be low performers in class and become drop-outs on their own or be dismissed from the college. Unfortunately, there is little research on this specific area in the field of literature both educationally, medically, and psychologically. Further research should therefore be conducted to identify additional best practices that can be used by institutional leaders in their support of staff and faculty to develop more support services to their students.

Theeboom et al. (2016) noted among the stress-reduction strategies most frequently developed by medical students: sharing stress-related experiences with others (which some have referred to as "being in the same boat"), maintaining good interpersonal relationships (family, friends, take a break from medicine (rest for a few moments at home), practice physical activity

and have religiousness. In addition, some students used relaxation techniques, meditated and / or attended musical concerts.

Several researchers have attempted to identify what causes some medical students to deal in a less traumatic way with the stressful situations of their daily lives. Prevatt (2016) emphasized the importance of identifying students at highest risk of psychological maladjustments during their training. The author studied the evolution of anxiety and depression symptoms among first-year medical students in their first six months at university, concluded that a small, continuously symptomatic subgroup contained students who were slower to make friends with inappropriate support from family members. tendency to fight, with firm boyfriends and / or "vulnerable" personalities. On the other hand, the subgroup that had been well throughout the period had experienced a very caring childhood, rarely had boyfriends, showed little tendency for fights and had "adaptive" personality. The study also highlighted that in a study with 140 medical students, observed that those who had less success in academic performance had high levels of symptoms and depressive ideations. Students with anxiety traits were more susceptible to stress, while the opposite was the case with the more optimistic and / or active styles of dealing with stress (confrontation with situations, effort to change them.

Theeboom, Beersma, and Van Vianen (2016) systematically studied strategies to regulate mood. The authors identified, categorized, and evaluated the effectiveness of behaviors commonly used to regulate mood. Among all categories, the most effective method is physical exercise. In descending order, the following items were described: listening to music, social interaction, different types of cognitive techniques (controlling thoughts, making a self-directed discourse or thinking positively), and practicing other activities such as hobbies, recreational activities, watching television, writing, reading, or working. The least effective means of

reducing temper was to be alone and avoid the person or thing that caused it. To reduce anxiety, tension and nervousness, the most effective strategies are the practice of physical exercises and relaxation. The authors concluded that the most effective way to combat bad mood would be "active mood management," combining exercise, relaxation, and cognitive techniques. The least effective would be "passive mood management" (which includes watching television, eating, and sleeping) and "direct reduction of stress" (drug use or sexual activity). To reduce tension, the authors suggest the pursuit of pleasurable activities and to increase energy, cognitive techniques and the practice of physical and social activity.

Undergraduate awareness of mental health services. As undergraduates are often new to the college or university setting, it is important to provide mental health support during this transition period in their life. However, these supports must also consider the variety of course types that are available to students. For example, Barr (2014) discovered that 89% of colleges and universities in the United States offer online courses and, of those institutions, 58% offer degree programs completely online. The author discussed how providing online student services are an important component of these distance programs and that such programs are often required by accrediting bodies. Virtual interventions outline how institutions of higher learning can prepare faculty to identify the mental health needs of online students and suggest effective administrative policies and programs to address these student needs.

Bettis et al. (2017) mentioned some practical advice for doctors to maintain or restore students' well-being. Among them are the appreciation of the personal side, the search for people who give emotional support, the search for balance between mind, body and spirit, the development of optimism, and the appreciation of what is done and of the potential itself.

Because these options are becoming more available to students, ensuring they know of the availability should become a priority for the administration.

As noted, some students have managed to cope well with the stressful situations of the medical student process because they have characteristics that allow them to maintain a good quality of life, regardless of the stressors they undergo. At another extreme, some have not been able to develop a strategy to deal with these factors. For this reason, it is necessary to create spaces so that every student of medicine can reflect on the anxieties experienced in his daily life and discuss them. It is also important that medical schools provide psychological and pedagogical support to students who are unable to cope adequately with such situations (Bettis et al., 2017).

Prevatt (2016) argued that all efforts must be made to raise the overall health and well-being of medical students and to increase the number of health promotion programs aimed at them. Healthy medical students are likely to be healthy physicians, becoming healthy lifestyle models for their patients. For Prevatt, the use of time management strategies can be particularly useful in reducing stress in medical students. The author suggested that it may be appropriate for medical schools to create time management strategies.

Bettis et al. (2017), in reviewing the literature, reported that stress management programs in medical school—such as teaching techniques to deal with stress (meditation, hypnosis, muscle relaxation) and the promotion of expression support groups emotions and affection—can be very positive for students. From the studies, they comment that medical students participating in stress management programs have increased immunological function, decreased symptoms of depression and anxiety, increased spirituality and empathy, increased knowledge about alternative therapies to refer to them in the future, increased knowledge about the effects of

stress, and greater use of positive skills to deal with it. The authors concluded that most

interventions designed to reduce stress in medical education have proved effective and that

practically all participants considered the programs to be useful. But they think there are still a

lack of studies that demonstrate the type of program most effective and the duration and

frequency necessary for it to take effect.

One proposal that has been used by several faculties of medicine is the mentoring

program. Bellodi et al. (2011) said "The development of the entire training process, especially in

relation to the choices to be made, can be greatly facilitated if the student is offered contact with

suitable and stimulating identification models for their different needs"(p. 39). For these authors,

the objective of the tutorial activity is personal support during professional development. The

mentoring program also creates opportunities to identify problems during training and their

possible referrals for solutions. The proposal that has been used by several faculties of Medicine

is the mentoring program. Bellodi et al. stated, "The development of the entire training process,

especially in relation to the choices to be made, can be greatly facilitated if the student is offered

contact with suitable and stimulating identification models for their different needs" (p. 15). For

these authors, the objective of the tutorial activity is personal support during professional

development. The mentoring program also creates opportunities to identify problems during

training and their possible referrals for solutions.

Yorgason, Linville, and Zitzman (2008) discovered connections between university

students' mental health and their knowledge and use of campus mental health services. The

authors concluded that students who are mentally distressed are more likely to know about and

use services; however, some students who were mentally distressed either did not know about

services or knew about services but did not use them. In most cases, living off campus,

identifying as male, and having fewer years in college was related to less knowledge of campus mental health services. In addition, identifying as female and having more years in college was predictive of higher service use.

To prevent mental health incidents among college students, it is vital for campus staff and faculty to be equipped to handle the incidents that may occur (Hunt, Watkins, & Eisenberg, 2012). Wood (2012) suggested that the mental health dilemma facing higher education today does not appear to be abating. Therefore, it is imperative that colleges have fully-staffed and adequately-trained counseling personnel to assist students with psychological issues (Hunt et al., 2012; Wood, 2012).

Higher education institutions must create a climate of awareness so that issues may be recognized early. Additionally, students with mental illnesses must be included in mainstream campus life (Wood, 2012). Wood argued that mental health crises on college campuses cannot fall only into the hands of the counseling centers. There is a need for campus partners to collaborate and work together to intervene and provide interventions for students that can be beneficial to the welfare of the students. The campus community must commit and get involved in this initiative. The author concluded that with collaboration and dedication, college administrators, student services personnel, and other stakeholders can help to provide adequate resources that will result in aggressive intervention and increased awareness. This will thereby support students with mental health issues and minimize the possibility of acts of campus violence.

Early recognition and prevention of mental health crises are vital to the safety of all students (Falk, 2015; Harris-Caldwell, 2015; Wood, 2012). It is important to note that all the participants in the study by Harris-Caldwell (2015) described at least one maladaptive mental

health behavior. This finding was consistent with the report by the Center for School Mental Health (2011), which indicated that the demand for mental health services and supports in community colleges is expected to increase in the next several years (Harris-Caldwell, 2015).

Falk (2015) identified interventions to include effective health communications, which can relatively increase the health behaviors and decrease the negative effects that may also be gathered from the interventions. The earlier undergraduate students are made aware of, and supported to use campus mental health services, the better the opportunities for successful completion of degrees and the suppression of violent tendencies.

Students use of campus mental health supports. The stigma surrounding mental health has been a major reason why people fail to address their mental health needs. Badra (2014) focused on the public's perception of counselors, understanding that in many cases, counselors are limited in their ability to address mental health in a way that is beneficial for the student. According to the author, research examining the attitudes towards seeking mental health services and the effect such perceptions have on the propensity of public use is in its prime. Such knowledge is necessary for the benefit of the consumer as well as concerned mental health professional organizations. Badra focused on the ability to discriminate consumer perception based on the professional identity of the mental health service provider.

Schwartz and Friedman (2009) completed a meta-analysis of campus-based mental health intervention and prevention programs from 1990 through 2005. Despite the long-standing evidence and substantial basis of the scope and severity of mental and psychological health issues in medical students, few studies and empirical research have assessed mental health prevention efforts. This can be attributed to the desire of schools to help students with mental problems. Early initiatives of schools and other educational administrations relating to student

mental health focused primarily on improving access to mental healthcare for students who are mentally impaired. It bears noting that educating the students about mental health problems and being a part of the effort of college campuses to combat mental health issues is important because this can reduce the stigma related to seeking mental health treatment.

In their study, Yorgason et al. (2008) examined connections between students' levels of mental health and their knowledge and use of campus mental health services. A sample of 266 undergraduate students completed a web-based questionnaire about their current mental health status, knowledge of mental health services, and use of mental health services. Students who are mentally distressed are more likely to know about and use services; however, some students who reported to be mentally distressed either did not know about services or knew about services but did not use them. Fewer years as an undergraduate, living off campus, and identifying as male was associated with less knowledge of campus mental health services. Conversely, identifying as female and higher number of years in college are predictive of higher service use. The authors concluded that university mental health providers must continue to make strategic efforts to disseminate knowledge about mental health services to all students. Teaching life-coaching programs to college students should be explored as a means of providing support. A universal system that helps universities take a proactive approach toward students and better assist in such difficult situations may be beneficial (Aradilla et al., 2014; Harris-Caldwell, 2015; Slavin et al., 2014).

Mental health interventions. Eisen et al. (2009) implemented two synthesis activities that highlighted a combined seminar/internship titled The History and Biology of Addiction and Depression, which connected several pre-existing, previously unlinked programs: college teaching, medical and public health research, residence life, counseling, and ethics. This strategic

intervention contributed toward social success and allowed small-group research projects and a student-organized forum to discuss addiction and depression. This process put students who never socialize and are experiencing mental health concerns, in the position of wanting to socialize and interact with their peers.

After reviewing the articles, many different strategies and interventions have been put in place to address some of the ongoing issues involving mental health. However, there is still a need for further research to address some of the questions regarding mental health-related incidents amongst college students (American College Health Association, 2014). In addition, one could still question the system or methods currently being utilized to address mental health concerns on college campuses. Despite the limited research-based intervention implemented, the increasing number of incidents reported every year indicates there is an immediate need of resources, interventions, and strategies to address these incidents. This study provided the foundation to begin the research and implement change on college campuses.

Bonneville-Roussy, Evans, Verner-Filion, Vallerand, & Bouffard (2016), in a study done at the University of Aveiro, verified that it is the first-year students who show higher levels of stress compared to students of the following years. In this study, student participants were between the ages of 18 and 20. This can be explained by the fact that access to new imply multiple changes, and for many students, it is a time for to reconcile personal motivations and interests with new contexts of life and at the family, social, and school level. The study, which analyzed the psychological and affective problems experienced by the freshmen, found students "stressed" with classes, exams, academic results, and looking forward to the competitive environment and transition process in which they are is due to age in simultaneously adapting to college.

The literature shows that some of the existing projects sensitive to this theme and applied in academia, namely at the University of Coimbra and Aveiro, have results animators which show the pressing need to apply them. The surveys carried out have also revealed that many universities, all over the world, particularly in the United States, already have a set of intervention plans for students and stress management with a view to improving their mental health and adapting to the universities. The studies demonstrate the growing need for intervention of the student population in stress management (Fusch, 2011).

Other projects, with intervention programs, with application time, durability and more limited evaluation and applied to a group of more restricted students, have also appeared a little throughout the world, such as Japan, Malaysia, Korea, India or the United Kingdom. With the case of the studies developed by Hirokawa, Yari and Mitaya (2002), Hori and Shimatsu (2007), Baqutayan and Mai (2012), Kadhiravan and Kumar (2012), and Cho (2012). These data are in line with the concept that students' health is not only their responsibility, but they are also of university intuitions that must be sensitive to the phenomenon of creating conditions that facilitate their management and reduce their consequences such as loss of health and maladaptation to the world academic.

College counseling center service models. College counseling center directors in the United States have reported increased severity of students' presenting problems, and campus counseling center usage rates are at record highs (Center for Collegiate Mental Health, 2017). University counseling centers cannot keep up with the demand for services. Based on the research, it may well be the right time to examine prevention efforts that can help students cope which in turn might prevent a mental health crisis for higher education students (Center for

Collegiate Mental Health, 2017; Steinhardt & Dolbier, 2008). Coaching has its foundations in a public health model, and it is helpful to explain coaching from that perspective.

Unlike traditional medical care that is predominantly focused on treatment, public health is prevention oriented. There are three levels of prevention: primary, secondary, and tertiary (Tulchinsky & Varavikova, 2014). Primary prevention activities promote health and help individuals protect against exposure to risks that lead to health problems. Primary prevention focuses on reducing or removing risk factors when possible by changing the environment and family and individual behaviors. This includes anticipatory guidance to develop and maintain positive features of health that already exist. In the transactional model of stress and coping (Folkman & Lazarus, 1984), these are often referred to as "strengths." In the context of college life and mental health, this could include identifying positive coping methods that are already in place such as getting rest, exercising, and identifying areas where self-care is being neglected.

Secondary prevention activities attempt to stop or slow the progression of existing clinical problems. Secondary prevention also attempts to target those who are more susceptible to health problems because of individual health and mental health history, family history, age, lifestyle, health condition, or environmental factors. The emphasis is on managing symptoms, so they do not disrupt one's daily activities.

Tertiary prevention is directed at managing or rehabilitating persons with diagnosed health conditions serious enough to disrupt daily activities (Tulchinsky & Varavikova, 2014). Tertiary prevention aims to reduce further complications, improve quality of life, and return the individual to daily activities, perhaps with assistance to prevent relapse. In a mental health context, tertiary prevention is provided through intensive or protective services such as brief

inpatient hospitalization or assessment by someone with a high level of specialization, such as a psychiatrist.

There is a level of useful, functional, or necessary anxiety that mobilizes to act, but when anxiety exceeds certain limits, it can cause maladaptive consequences. This can happen in exam situations and, therefore, lead the student to a lower performance (Aradilla et al., 2014; Harris-Caldwell, 2015; Slavin et al., 2014).

Coping with examinations could be defined as a transaction process between the person and the environment with the flexible and combined use of different strategies, which are not uniformly effective, but the results are multidirectional depending on different factors. Thus, effective coping strategies in the examination situation may not be effective in other everyday situations. An interesting fact to keep in mind is that coping strategies should not be called adaptive or maladaptive, but rather they would be functional and particular to each person, that is, it is necessary to consider for whom, under what circumstances and in what situation strategy has adaptive consequences (American College Health Association, 2014).

To better understand the perception that university students have of the evaluation situation, it is interesting to consider a recent qualitative study of cases, carried out by Anastopoulos and King (2015). The results showed that before a test, negative sensations (especially nervousness) predominate over positive ones. Additionally, the authors emphasized that most students recognize that they spend little time to program the subject and the study, which makes them use cognitive strategies to memorize the information and the contents of the matter when not having the necessary time to reflect it. This in turn generates negative sensations that are detrimental to their quality of life.

The study conducted by Anastopoulos and King (2015) problematized the theme of mental health and quality of life among university students and articulated it to a wider debate about the production of psychological suffering inherent in the context of the exploitation of work in the current context of monopoly capitalism. From a critical perspective that converges the assumptions of historical-cultural psychology, popular education and liberation pedagogy, the study discussed the activities of students regarding recent research on stress and psychological suffering among university students. Proposals were for individual, collective, and institutional interventions and actions already provided for in the Unified Health System as activities for the construction of psychosocial emancipation, awareness raising, and overcoming adversity.

From the brief-reflection on historical and cultural aspects regarding the exclusive and elitist nature of the university students, the Anastopoulos and King (2015) study presented scientific evidence already produced. As an intervention activity and possibility of overcoming, the study also discussed initiatives of popular education in health, integrative community therapy, and conversation wheels as intervention devices consistent with the proposals of psychosocial emancipation, strengthening of links and awareness, alternatives to face this reality. The findings of the study can be effectively used to incorporate possible intervention strategies for mental health awareness in college students.

Most college counseling centers are organized to operate at the secondary prevention level (Brunner, Wallace, Reymann, Sellers, & McCabe, 2014; Prince, 2015). Most interactions reflect traditional medical care practice models. Because of the increasing number of student referrals, counseling centers are providing intake services, but are limiting the number of secondary prevention activities. The counseling centers identify a mental health need but refer

students to public or private tertiary care services such as emergency care or psychiatrists. So far, there have been very few efforts at developing primary prevention, that is, programs to reduce the needs for students to use intensive services. Because of the lack of specific research to identify the best approach to support college students who are dealing with mental health issues, there needs to be additional research that will do such and is the basis for the value of the current study.

Online support services. In a public health framework, interventions are designed to enhance self-efficacy (Pennebaker et al., 1990). The focus of the intervention is on building coping skills. Over the past two decades, the use of internet-based therapies has skyrocketed as more people have access to the Internet (Reynolds, Griffiths, Cunningham, Bennett, & Bennett, 2015). E-mental health resources offer a potential means for addressing this treatment gap (Roxon, Macklin, & Butler, 2011). However, currently, clinical intervention programs have the most research behind them.

Most e-mental health intervention programs have been online treatments rooted in cognitive behavior therapy (Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014; Hedman, Ljótsson, & Lindefors, 2012). The service recipient receives symptom questionnaires, symptom-related content that can be downloaded, and exercise activities designed for users to practice skills. Some programs are designed for facilitated "check-ins" by the therapist, while others are intended to be fully automated and self-guided.

In the online coaching model, human support is added to a symptom-focused e-mental health program. Just like with face-to-face therapy, treatment involves a service user, a provider, and the intervention curriculum (Gega, Smith, & Reynolds, 2013; Spence et al., 2011; Stott et al., 2013). The online program can be self-paced or guided. The self-paced program is usually

asynchronous, meaning the user and coach log into a common site but logging in at the same time is not necessary. The user logs in with a password and completes activities independently. The coach, who has access to the user's work page, logs in to check the user's work periodically. The coach makes observations about the user's work, offers suggestions about next steps, and encourages the user to continue working on the program.

Guided intervention, on the other hand, is often synchronous, meaning the user and coach log in at the same time and hold a session via text or audiovisual media. Homework assignments completed by the user before the synchronous sessions are discussed. The coaching provider offers support and encouragement for completing the curriculum (Lillevoll et al., 2013).

While more research is needed, there appears to be evidence that cognitive behavioral therapy delivered online achieves equivalent results to traditional face-to-face delivery (Wagner, Horn, & Maercker, 2014). It is possible that human coaches may improve the results of intervention by tailoring services to individual needs and by providing suggestions about how to put activities into practice (Abbott, Klein, & Ciechomski, 2008; Andersson & Titov, 2014). A wide range of professionals and paraprofessionals with at least a bachelor's degree deliver effective coaching if they have appropriate training and supervision (Collett, 2008; Mohr, Cuijpers, & Lehman, 2011). This includes general medical practitioners, psychologists, medical specialists, nurses, social workers, other allied health practitioners, peer counselors, and graduate students (Cavanagh, Seccombe, & Lidbetter, 2011; Farrand, Confue, Byng, & Shaw, 2009; Hadjistavropoulos et al., 2014; Newby et al., 2013).

Interventions and outcomes. Coaching aimed at improving coping skills in college students has shown some success at reducing symptoms across many types of mental health issues. For example, studies showing evidence of success are noted for students experiencing:

anxiety (Deckro et al., 2002; Dziegielewski, Roest-Marti, & Turnage, 2004), depression (Shapiro, Schwartz, & Bonner, 1998), psychological distress (Rickinson, 1997), and perceived stress (Deckro et al., 2002). With clinical intervention protocols, coaches must rely on their expertise, knowledge about the program, and the user's preferences. Coaching has been used most frequently to address issues such as depression and anxiety. Most protocols exclude people who are assessed to be psychotic, acutely suicidal, actively engaged in substance abuse, or have known cognitive deficits, though accurately assessing these issues can be difficult via online interviewing.

Most successful interventions have incorporated the following techniques offered singly or in combination: relaxation techniques such as diaphragmatic breathing, muscle relaxation, meditation, and biofeedback (Deckro et al., 2002; Shapiro et al., 1998); cognitive–behavioral strategies that challenge changing maladaptive thinking (Dziegielewski et al., 2004); increasing social support (Rickinson, 1997); and psycho-education on the effects of stress (Deckro et al., 2002).

With respect to anxiety about exams, it is important to consider the definition of Bonneville-Roussy et al. (2016). These authors called the anxiety a specific-situational trait, which is characterized by the student's predisposition to act with high anxiety in performance-related environments. Gutiérrez Calvo and Avero (1995) had noted that test anxiety is a relatively stable tendency for most students to respond with high levels of anxiety in situations in which they are being evaluated, presenting as a central aspect the concern for their possible poor performance in the exam and the consequences for their self-esteem, status, etc.

In this study, the efficiency reduction model, developed by Gutiérrez Bonneville-Roussy et al (2016), will be used, which postulates that worry, the cognitive component of anxiety,

occurs on a self-regulatory mechanism (involved in the meta-cognitive activities during learning and performance). This component arises when the student compares the knowledge, he has with the necessary to pass the exam. In this way, the concern will increase when the knowledge that the student has does not reach these necessary standards, which will produce that this self-regulatory mechanism increases the student's resources to reduce the concern and obtain a good performance in the exam.

Extra resources used by students with high anxiety explain why there are subjects with high levels of anxiety but good performance, unlike students with low levels of anxiety whose efforts are greater to have a good performance by processing less efficiently. Thus, as some authors suggest, students can be expected to increase their concern and implement available resources in working memory such as spending more time studying and reviewing, using cognitive processing alternatives, planning activities, look for information that helps achieve better preparation, and study with a partner among others. All with the aim of reducing worry while avoiding the possibility of failure (Fusch, 2011).

Mental disorders and any impairment of mental health are responsible for a high level of disability burden in students attending universities and lower tiers of the educational system (Pecka, 2011; Prince, 2015). However, many universities and schools have limited resources available to support student mental health and often fail to focus on the psychological health of the students. Technology-based interventions, based on empirical evidence, may be highly relevant to university populations and other lower tiers of the educational system (Abbott et al., 2008; Andersson et al., 2014; Barr, 2014). Previous reviews of different psychological interventions have targeted substance use, forms of depression, and eating disorders in tertiary students. However, the effectiveness of technology-based interventions and mental interventions

for other mental disorders and related issues has not been reviewed and not yet supported with enough evidence of their efficacy (Pecka, 2011). The findings on the efficacy of technological interventions targeting specific mental health and related problems offer progress in the field of countering forms of mental health disorders (Farrer et al., 2013).

Review of Methodological Issues

A review was conducted addressing the methodologies used in research on the topic of how to support college student mental health. Strengths and weaknesses in the literature are associated with design feasibility; limitations of various qualitative, quantitative, and mixed-method designs (Gaffney, 2016); issues of balance in mixed-methods approaches (Song & Lindquist, 2015); issues related to the ethical protection of participants using specific data-gathering techniques (Payne, 2015); and inferential, interpretive, and hermeneutical issues related to specific methodological approaches (Iydroose, 2012). This section focuses on the strengths and limitations of qualitative and quantitative study methods used to examine mental health issues in undergraduate students.

It is important to evaluate the effectiveness of mental health interventions. There is also a need to improve the inclusion and exclusion criteria to be able to capture the important studies in behavioral interventions that impact mental health (Payne, 2015). Payne distributed a survey on the mental health of the college students. The students sometimes experienced anxiety, depression, stress, and decreased mindfulness, which may have affected their work. There is a need to ensure that students can decrease these negative factors so that they can be productive in their work (Song & Lindquist, 2015).

Unlike the other qualitative studies, Gaffney (2016) used grounded theory methodology to develop a deeper understanding of participant experiences. The author identified 24 students

through convenience and purposive sampling. Each participant was enrolled in an undergraduate program at a private university in the Western United States, self-identified as having been diagnosed with a mental health challenge, had completed at least 60 academic units, and had maintained a grade point average (GPA) of 2.0.

In contrast, Iydroose (2012) conducted a secondary analysis to investigate undergraduates' use of mental health services. The author analyzed the 2010 Healthy Minds Survey data collected from undergraduate students at a New England public university. Responses from undergraduate students were analyzed to determine what variables, based on the Andersen Model for use of health services, correlated with use of mental health services. The quantitative analysis was performed to determine the social and demographic factors correlated with use of mental health services.

In an experiment conducted by Eisen et al. (2009), the authors focused on a model that was a combined seminar/internship, which connected several pre-existing, previously unlinked programs: college teaching, medical and public health research, residence life, counseling, and ethics. The authors' model of integrating elements of academics, campus life, and community outreach to address students with mental health issues indicated that college students have an effect in their decision to seek out other peer-mentoring and related roles on campus, and the model positively affects their career goals. The study involved the benefits of peer mentoring, which could affect the mental stability of the students. The career goals of the students may also matter because having a fixed career goal provides students with more focus.

In summary, the research exposes a need for awareness regarding mental health, interventions, and quantitative studies regarding undergraduate college students. This study

attempted to fill the methodological gap by using a quantitative quasi-experimental methodology.

Synthesis of Research Findings & Critique of Previous Research

To strengthen and fortify the effectiveness of psychological interventions and for optimum development to the students, a reconfiguration of education and psychological health systems to assist in the implementation of evidence-based practice might be needed to ensure that the interventions are helpful and effective. A study by Fazel et al. (2014) is related to the second research question of the current study regarding the difference between students who have participated in an intervention and those who have not participated. According to the authors, integrative strategies that allow participation by the students and combine classroom-level and student-level interventions have potential because this type of intervention allows for a more dynamic approach.

Overall, research is converging on the need for mental health services among undergraduate students. Most current research points to the need for additional formal mental health services for these students (Pedrelli et al, 2015). This is an important goal; however, there is also a need to consider and research alternative approaches (Ammentorp et al., 2013; Andersen et al., 2014). Almost no research has addressed the efficacy of life coaching, and there have been few studies that examine prevention approaches (Steinhardt & Dolbier, 2008). Therefore, the current study was a beginning step to address this gap in the literature.

Summary

College counseling centers are being inundated with referrals from students for mental health assistance. Many colleges are responding by referring students to higher levels of care. There has been less research attention to mental health prevention services. Over three decades

of research has shown that a range of populations can learn coping skills that increase their ability to manage their lives and life's inevitable crises more effectively. Coaching, a primary prevention model that originated in public health, holds potential for improving undergraduate coping skills (Steinhardt & Dolbier, 2008). Because the research suggests a high level of mental health needs among college students, calls for more research and implementation of prevention programs are not intended as a substitute for student mental health services but as a useful complement to such services. In the long term, diverting less urgent mental health concerns to prevention and support might enable college counseling centers to better address more urgent needs (Deckro et al., 2002; Dziegielewski, Roest-Marti, & Turnage, 2004; Rickinson, 1997; Shapiro, Schwartz, & Bonner, 1998).

Based on the review of the literature, which develops a unique conceptual framework using the transactional model of stress to understand coping in undergraduate college students (Calhoun & Tedeschi, 2014), there is enough reason for thinking that an investigation examining the effect of online life coaching on coping would yield socially significant findings. Thus, this researcher can therefore assert that the literature review has provided strong support for pursuing a research project to answer the following research question: How does coaching influence coping skills in undergraduate college students? Chapter 3 provides a comprehensive outline for the purpose of the study as well as the research question and associated hypotheses. It will also address the study design and methods, including ethical considerations, participant recruitment, random assignment, and operationalization of variables.

Chapter 3: Methodology

Introduction

This study examined the effectiveness of a brief, 4-week online coaching preventive model for increasing positive coping behaviors in undergraduate college students. Existing studies suggested a need for prevention strategies to help college students develop better coping skills, especially in the early stages of their college careers (American College Health Association, 2014; Pedrelli et al., 2015). Developing a universal system that will allow universities to take a different approach with students and better assist in such difficult situations may be beneficial to the overall structure of the system (Harris-Caldwell, 2015).

This chapter outlines the purpose of the study as well as the research question and associated hypotheses. It will also address the study design and methods, including ethical considerations, participant recruitment, random assignment, and operationalization of variables. Additionally, the chapter describes the data collection and analysis process and ends with a chapter summary.

Purpose of the Study

The purpose of this quasi-experimental study was to determine the effectiveness of a brief 4-week, online coaching preventive model for increasing positive coping behaviors in undergraduate college students. Universities across the country may benefit from this study to strategically intervene with students before students experience a crisis. Based on the findings, coaching models may be useful as a means of decreasing the number of mental health-related incidents occurring on campuses, providing more cost-sensitive services, and relieving some of the responsibilities placed on counseling centers (Pedrelli et al., 2015).

The healthcare community has implemented coaching for several years to help people with diverse health-related issues (Ammentorp et al., 2013). According to Stober and Grant (2006), the primary goal of life coaching is to initiate behavioral changes that facilitate goal attainment and performance enhancement. Life coaching may hold the potential to be a tool for populations at risk that can help prevent problems from escalating into crises (Ammentorp et al., 2013; Wolever et al., 2013).

Research Questions and Hypotheses

In this study, the between-subjects independent variable was the quasi-experimental group (intervention versus comparative, and the within-subjects independent variable was time (Time 1 pre-intervention; Time 2 post-intervention). Participants were randomly assigned to one of two groups, either Group A, which received the coaching intervention, or Group B, which as the comparative group, received no intervention. The dependent variable was student coping skills as measured by the Ways of Coping Questionnaire (WOC).

The transactional model of stress and coping (Folkman & Lazarus, 1984) proposes that stress does not necessarily lead to poor choices and outcomes. Without good coping skills, individuals can feel easily defeated by negative events. Coping skills give individuals opportunities to surmount difficulties and return to their prior level of functioning, referred to as resilience. Later theorists have extended the model to assert that individuals can reach a higher level of functioning compared to pre-crisis; this is known as thriving (Calhoun & Tedeschi, 2014; O'Leary & Ickovics, 1995). Folkman and Lazarus (1988) developed the Ways of Coping Questionnaire (WOC) to measure coping skills.

This researcher hypothesized that undergraduate college students who complete a 4-week coaching program would demonstrate enhanced coping skills between baseline and post-

intervention. In addition, it was hypothesized that those who participated in a coaching intervention would show significantly higher coping skills overall compared with those in a comparative group. Formal research questions and specific hypotheses for this study were as follows:

RQ1: What difference exists in the WOC scores among participants taking part in a life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

$H1_0$: There is no mean difference in WOC scores among participants from pre-intervention to post-intervention.

$H1_A$: There is a mean difference in WOC scores among participants from pre-intervention to post-intervention.

RQ2: What difference exists in WOC scores among participants who did not participate in the life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

$H2_0$: There is no mean difference in WOC scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

$H2_A$: There is a mean difference in WOC scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

RQ3: What difference exists in WOC scores between participants who participated in the life coaching program and those who did not participate in the program?

$H3_0$: There is no mean difference in WOC scores between participants who participated in the intervention and those who did not participate in the program.

$H3_A$: There is a mean difference in WOC scores between participants who participated in the program and those who did not participate in the program.

Research Design

This study used a quantitative quasi-experimental research design. Quantitative designs are often useful when literature has already shaped the parameters of a phenomenon (Martin, & Bridgmon, 2012). In this case, coping and stress have a long history of quasi-experimental research study, and its measurement is relatively well established and understood (Vohs & Baumeister, 2016). Quantitative design is also preferable to qualitative research when the researcher is interested in discrete effects of an independent variable on a dependent variable (Martin & Bridgmon, 2012). This study was an opportunity to assess the effects of online life coaching on coping skills using a pretest-posttest quasi-experimental design. While there is a large amount of literature on stress and coping, there have been few studies of the effects of online life coaching on improved coping skills.

Quasi-Experimental designs are characterized by independent variable manipulation, and participants are not randomly assigned to conditions or order of conditions (Cook & Campbell, 1979; Kazdin, 2011). In this study, online life coaching and time were the independent variables. This study used what Campbell and Stanley (1963) referred to as a pretest-posttest intervention research. One group received online life coaching over four weeks and the other group, serving as the comparative group, received no coaching intervention. The groups were created by random assignment using a list of undergraduate students who consented to participate in the study. Once assigned to groups, coping surveys were completed by all participants, including the comparison group, before anyone received coaching; coping was measured again after the intervention group completed the coaching sessions.

Use of a comparison group helped this researcher account for other variables that could contribute to change in coping skills, which served as the dependent variable in this study. For

example, change in coping skills over the course of 30 days might be a consequence of maturation or the ability to cope with change as a result of exposure to stressors and practice overcoming them. Change in coping skills over a given period might also be attributable to history effects, that is, events that many students co-experience that improve coping skills (Kazdin, 2011). An example of history effects may be a new campus orientation program that addresses the anxiety that many students experience during their first year attending a new university.

Random assignment was used since it usually yields group equivalence (Ong-Dean, Hoffstetter, & Stick, 2011). The use of a randomly assigned comparison group was also an attempt to minimize selection bias. Although the assignment was random, the sampling was not and therefore did not afford each member equal opportunity. The dependent variable, coping skills, was measured using an instrument that is considered the standard in coping measurement to minimize problems related to testing instruments. These strategies for addressing internal validity threats do not guarantee such threats will be overcome, but these steps can increase confidence in the results of the study. Furthermore, since all participants were recruited from the same university, the results may not be generalizable to all undergraduates in the United States, but possibly only college and universities with similar demographics and characteristics.

Target Population, Sampling Method (power) and Related Procedures

The general population of the study was university undergraduate students. The sampling frame were undergraduate students currently enrolled at a public university in a southeastern state between the ages 18-22. The IRB approved the proposal before recruitment began. The purpose for the participant age restriction of 18 to 22 years was to minimize age-related developmental differences that might lead to variation in the data.

According to a G*Power calculation (Faul, Erdfelder, Lang, & Buchner, 2007), this researcher needed to sample 189 students to have enough power for statistical analysis (See Appendix C.). The participants in this study were not restricted by any other characteristics (e.g., gender, sexual orientation, religion, or ethnicity).

Participants for this study were recruited by using two methods. First, two instructors agreed to allow this researcher to visit their classrooms and recruit for the study. These course sections had approximately 60 students each. The classes consisted primarily of undergraduate students who were majoring in education. Second, this researcher created a flyer with details of the study and posted the flyer on campus (See Appendix B.). The flyer was also distributed in classes by three professors who agreed to do so. Students with interest in the study contacted the researcher using the contact information on the flyer.

All those interested in participating were invited to an in-person information presentation held in classrooms with the flyer displayed on the classroom door to welcome all individuals interested. There was a brief PowerPoint slide show presented to the participants to overview the study and answer any questions regarding the informed consent form or the research process. The PowerPoint slides were made available through email for any potential student participants who asked for a copy. It should be noted that attendance at the presentation was not mandatory for participation in the study.

Students interested in the study contacted the researcher via email or phone (text message) to talk more about being a participant. During this initial contact, the potential participant was asked about his or her age. Individuals were eligible only if their age was 18 years through 22 years, 11 months, 29 days. This researcher also asked about university

enrollment status. Individuals were eligible if they were enrolled full-time during the Spring 2018 semester. Those who met study criteria were placed on a list of potential participants.

After two weeks of recruitment, potential participants were invited to meet face-to-face for an information session about the study and to obtain written consent from those who, after hearing about the study, agreed to participate. It should be noted that attendance at the session was not mandatory. Four study information sessions were offered at varying times, days of the week, and campus locations to accommodate a range of student schedules. At each information session, the researcher presented information about the study verbally and via PowerPoint presentation. All those with interest in participating were asked to provide their names and email addresses along with a signed consent form (See Appendix D).

After participants were recruited, their names were listed alphabetically by last name in a password secured file in the online application known as Random.org. This researcher used this application to generate a list of random numbers equal to the number of participant names. Participants in Group A were assigned to participate in a 4-week coaching program that met once weekly for approximately 30 minutes. Group B participants did not receive any intervention.

Participants were told their group assignment immediately after random assignment was completed. Only 68 quasi-experimental group participants and 53 comparative group participants completed the baseline measures. Participants in both Group A ($n = 68$) and Group B ($n = 53$) received a link to a Qualtrics version of the researcher-created demographic questionnaire and the WOC Questionnaire (Folkman & Lazarus, 1988) to be completed before the coaching program took place. Again, at the end of the 4-week intervention period, participants in both Group A ($n = 53$) and Group B ($n = 45$) completed the Ways of Coping questionnaire again at the posttest.

This researcher planned for participant attrition in several ways. First, the participants were sent a link to the Qualtrics surveys within 24 hours of enrollment in this study. After group assignments were made, each participant was informed of his or her group assignment immediately. The value of being in either the intervention and comparative groups was emphasized. The researcher sent a reminder email to participants in both groups if they had not completed the questionnaires within three days (72 hours). A second reminder email with the link was then sent six days after the original email was sent. If there was no response to the second email, it was assumed that the potential participant was not interested in the study and no further contacts were made. Second, a weekly email reminder was sent to each participant. Group A, the quasi-experimental group, received reminders of their weekly sessions 24 hours in advance. Group B, the comparative group, received a weekly email reminding them they were enrolled in the study, thanking them for participating, and reminding them they would receive another Qualtrics invitation to complete a WOC Questionnaire at the end of the study. The anticipated timeline was included in these emails; for example, "You will be asked to complete the WOC Questionnaire again in approximately ___ weeks." The number of participants needed for the study was purposely over recruited by 20%.

Instrumentation

The WOC Questionnaire is a measure of coping based on Folkman and Lazarus' (1985) stress and coping theory. The instrument contains 66 items that describe thoughts and actions that people use to cope with internal and external stressors. A copy of the scale is provided in Appendix A. The WOC Questionnaire measures an individual's coping processes and behaviors rather than coping styles. Instructions ask participants to identify a stressful encounter that occurred recently, where it took place, and what happened.

For three decades, the WOC Questionnaire has been used extensively to measure coping with a wide range of populations (Folkman & Lazarus, 1985, 1988, 1990; Lam, Ng, Pan, & Young, 2015; Smyth, K., & Yarandi, 1996; Van Liew, Santoro, Edwards, Kang, & Cronan, 2016). The WOC Questionnaire yields eight subscale scores. See Table 1 for the names, alpha reliability, definition, and an exemplary item from the authors for each subscale (Folkman & Lazarus, 1988).

Table 1

Subscale Alpha Reliability Scores, Definitions, and Example Items for the WOC Questionnaire*

Subscale	Alpha reliabilities	Definitions	Example item
Confrontative coping	α = .70	Aggressive efforts taken to alter the situation; some degree of hostility and risk-taking.	I stood my ground and fought for what I wanted
Distancing	α = .66	Cognitive efforts are made to detach oneself and minimize significance of the situation;	I tried to forget the whole thing
Self-controlling	α = .69	Efforts are taken to regulate one's feelings and actions	I tried to keep my feelings to myself
Seeking social support	α = .75	Efforts to seek informational support, tangible support, and emotional support	I got professional help
Accepting responsibility	α = .71	Acknowledgement of one's role in the problem, with a concomitant theme of trying to put things right	I criticized or lectured myself
Escape avoidance	α = .73	Wishful thinking and behavioral efforts to escape or avoid the problem	Took it out on other people
Planful problem solving	α = .76	Problem-focused efforts made to alter the situation, with an analytic approach to solving the problem	I decided of action and followed it
Positive reappraisal	α = .83	Efforts to create positive meaning by focusing on personal growth	I changed something about myself

Note. *Adapted from Folkman and Lazarus (1988)

Van Liew et al. (2016) reviewed over 15 studies using the WOC Questionnaire and found the positive reappraisal subscale has the least variability and the self-controlling subscale has the most variability (α =.60 to α =.75). Factors related to this variability are age and format of

administration. The Van Liew et al. review supports early research by Scherer and Brodzinski (1990) showing that the Ways of Coping Scale yields results independent of demographic variables such as marital status and education. The WOC Questionnaire compares favorably to measures of situational stress and coping such as the COPE scale (Carver, 1997).

Construct validity has been supported by more than 20 studies that involved transactional coping model (Van Liew et al., 2016). Various studies have supported the factor structure of the WOC across divergent populations over three decades that include Chinese parents of adults with schizophrenia (Lam et al., 2015), African American mothers (Smyth, & Yarandi, 1996), and fibromyalgia patients. The scale has been translated into a dozen languages and is often acknowledged as the standard for measuring transactional coping (Van Liew et al., 2016). The most problematic issue with the WOC Questionnaire is that there is little research on the measure in the past 15 years.

In addition to the WOC Questionnaire, a researcher-created demographic questionnaire was distributed to each participant in this study via a Qualtrics link after being assigned to groups (See Appendix E.) The questionnaire requested participant age, gender, ethnicity, college major, and occupation. Age was measured on a continuous scale whereas gender, ethnicity, major, and occupation were measured as categorical variables.

Data Collection

The first steps of data collection included obtaining IRB approval as well as site authorization. Due to the study being conducted at a university campus, Concordia IRB confirmed site authorization concurrently with approval of the research protocol. Site authorization allowed this researcher to conduct the study once detailed information had been uploaded to the external IRB for purposes of record keeping.

Before collecting baseline data, this researcher received electronically signed consent forms from each participant (See Appendix D). The informed consent process involved giving the participants adequate information concerning the study verbally and by PowerPoint during face-to-face information sessions. Potential participants had the opportunity to consider all options and ask the researcher questions about the study. For those who chose to participate, the researcher sent a web link to the Qualtrics site where they completed the demographic form and the pre-test WOC Questionnaire. The web link was sent to the participants' email addresses.

This study used the *Transforming Lives Through Resilience Education* coaching curriculum developed by Steinhardt and Dolbier (2008) as a preventive intervention for Group A, the quasi-experimental group. This curriculum was delivered as four asynchronous online sessions of approximately 45 minutes each. Once divided into groups, participants in Group A were provided with access to an online chat room where the materials were viewed. Session 1 was available the first week of the study. One additional session was added weekly until all four were available. As part of the curriculum, each participant was asked to leave at least one comment per session on a discussion forum for the project. This researcher initiated the discussion forum with a "Question of the Week" that pertained to each session. This researcher also provided his contact information in case participants wanted more information about a specific session.

Week 1, Session 1: Transforming stress into resilience. Based on the work of O'Leary and Ickovics (1995), this session discussed four typical responses to stress, including give up, put up, bounce up, and step up. These responses were discussed in terms of returning to a previous level of functioning, thriving, and obtaining a higher level of functioning after a crisis than before a crisis (O'Leary & Ickovics, 1995). Information was provided to reinforce core content,

55

including problem-focused coping strategies (i.e., active coping, planning, positive reframing, acceptance).

Week 2, Session 2: Taking responsibility. This session focused on defining a line between taking and not taking responsibility for one's behavior. Taking responsibility, was defined as owning one's power to choose and create, but only by expanding one's circle of influence (Covey, 1989). Denying, blaming, making excuses, and shaming were provided as examples of shrink one's circle of influence. Taking responsibility was linked with self-esteem (Branden, 1994).

Week 3, Session 3: Focusing on empowering interpretations. Session 3, drawing heavily from Albert Ellis' (2001) rational-emotive theory, helped participants become aware of how their negative interpretations of stressful situations can disempower them and how more realistic interpretations offer personal agency.

Week 4, Session 4: Creating meaningful connections. Research indicates that a person's health and well-being are directly related to how well they connect with others and allow support during stressful situations (Ornish, 1997). This session provided psycho-education about the need to develop a support system. This session also focused on development of self-leadership, which is communicating with calm, clarity, and confidence. The post-test questionnaire was also administered during this session.

Operationalization of Variables

In this study, coping skills were defined as strategies used to reduce environmental demands for the purposes of managing them (Folkman & Lazarus, 1988). The potential participant pool was recruited from undergraduate students, ages 18-22, that were interested in learning ways to improve their coping skills through an online preventive life coaching model.

Most of the participants were individuals who had experienced different types of obstacles that may have affected their ability to be resilient or overcome their current situation. The end results of the study concluded that student participants who received this four-week intervention course online did make statistically significant improvement in coping skills as measured by the WOC Questionnaire; however, comparative group study participants made some progress as well.

Data Analysis Procedures

The Statistical Package for the Social Sciences Version 16.0 (IBM Corporation, 2012) was used to analyze the quantitative data from the demographic questionnaire and the WOC Questionnaire. Descriptive statistics for the researcher-created demographic questionnaire were tabulated and reported. Research questions 1 and 2 examined within-group differences in coping skills as measured by the WOC Questionnaire for the quasi-experimental group and the comparative group from Time 1 (baseline) to Time 2 (post-intervention for the quasi-experimental group). Research question 3 examined Group A (quasi-experimental group) and Group B (comparative group) between-group differences in coping skills as measured by the WOC Questionnaire.

For the three research questions, an independent samples *t*-test was used to analyze differences. The independent samples *t*-test was chosen because it allows the mean score from Group A to be compared to that of Group B and identify if the treatment caused a statistically significant difference in post-test scores. The assumptions of this test were that the difference of the scores from pre-intervention to post-intervention are normally distributed, free from outliers (a score that is far away from the average) and have approximately equal variances. The assumption of normality was assessed by inspection of histograms, kurtosis, and skewness statistics. In addition, calculating the Shapiro-Wilk W (Ghasemi & Zahediasl, 2012; Shapiro &

Wilk, 1972) tested the normality assumption. This test is usually used for samples under 50, but it is accurate in samples up to 2000 (Peat & Barton, 2005). Significance above 0.05 means the distribution meets normality assumptions. The Levene's test for homogeneity of variances was used to assess the equality of variances in the intervention and comparative groups. Significance above .05 indicates equal variances. The results, as reported in Chapter 4, supported use of t-tests for analysis of data collected during this project.

Limitations and Delimitations of the Research Design

This researcher anticipated the following limitations that could affect the results of the study. First, there was a limitation because using a convenience sampling procedure for this study would prevent full generalization of results to all undergraduate college students in the United States. Due to the use of convenience sampling, it was not clear that students who participated in the study were representative of the campus where this study took place. Next, this researcher relied on self-reported data from the participants. Self-reported data are subject to error due to exaggeration, recall problems, and social desirability bias (Gittelman et al., 2015). Another limitation was that neither this researcher nor the participants were blind to whether participants were in the quasi-experimental group or the comparative group. Random assignment minimizes important differences between treatment groups, but it does not prevent differential treatment of groups in ways that could affect results.

The chosen data collection instrument may also have been a limitation of the study. WOC Questionnaire was selected as a measure of coping skills (See Appendix A.). The WOC is based on Lazarus and Folkman's (1984) stress and coping theory. The WOC Questionnaire has been used extensively to measure coping with a wide range of populations over three decades (Lam, et al., 2015; Smyth, & Yarandi; Van Liew et al., 2016). However, based on a systematic review of

the WOC Questionnaire completed by Van Liew at al. (2016), the one-month interval between pretest and posttest used in this research is relatively short. Additionally, there are different versions of the WOC Questionnaire, with some eliminating items to reduce the scale. This researcher did not find compelling arguments for one version over the other, so the full scale was used; however, it was not known how this might have affected the results.

There were three main delimitations to account for in this research study. The first delimitation was that the participants were delimited to students at one university in this study. Therefore, the results may be generalizable only to the groups studied. However, there is no reason to believe the sample is not representative of students at other similar universities across the United States. The second delimitation was that that this researcher only considered students for analysis who self-reported that they were undergraduates (first year through fourth year), rather than including graduate students. Finally, the data also was delimited to 2018 spring semester students, creating a potential time frame limitation.

Internal and External Validity

As with any study, threats to reliability and validity were considered. External validity refers to the degree to which the results of the study can be generalized to the population. The results and implications of this study may only apply to undergraduate students between 18 and 22 years of old who are actively enrolled in a similar university.

Internal validity refers to the validity of the findings within a study. Testing hypotheses can involve threats to the validity of interpretation for quantitative researchers. Quantitative research may involve rejecting null hypotheses or failing to reject null hypotheses (Martin & Bridgmon, 2012). Consequently, threats to conclusive findings occur when quantitative researchers encounter a Type I error, which involves rejecting a valid null hypothesis (Ibrahim,

Ghani, & Embat, 2013). Because the two-group randomized quasi-experimental design was used with a pretest-posttest analysis, threats to internal validity such as history, maturation, and statistical regression were minimized.

The threats of history and maturation were mitigated in this study because participants in the randomized groups were involved for just 4 weeks. The minimal amount of time involved did not allow for a change, and no abnormal events occurred to any one participant. The threat based on maturation was mitigated using the two-group randomized design because it is assumed all participants would mature at the same rate. Because the participants were randomly assigned to groups, there was no basis for their inclusion other than having volunteered and signing the informed consent forms, which reduced statistical regression threat.

Expected Findings

When this research was developed, three major findings were anticipated. First, it was anticipated that undergraduate college students who completed a 4-week resilience intervention would demonstrate statistically significant increases in WOC scores between baseline and a post-intervention. Second, undergraduate college students who did not complete a 4-week resilience intervention would not demonstrate statistically significant increases in WOC scores between baseline and a post-intervention. Lastly, undergraduate college students who completed a 4-week resilience intervention would demonstrate statistically significant increases in WOC scores compared to the comparative group that receives no intervention.

Ethical Issues in the Study

As with any study involving human subjects, it is important to be aware of ethical issues and make every attempt to mitigate the related concerns. In addition, one should be mindful of

the beneficence in providing coaching resources to the comparative group after the completion of the study.

Informed consent. One ethical concern was informed consent. A consent form was provided for each participant's signature. Before obtaining a signature, this researcher explained and educated each participant on the meaning of informed consent. Each potential participant received verbal information about the study and viewed a brief PowerPoint slide show designed to answer any questions regarding informed consent. Participants volunteered for this study and were informed they could stop participation at any time with no penalty. Consent forms were stored in a locked safe box on campus.

Data confidentiality. Student assessment results and demographic data were stored on this researcher's laptop in a password-protected file. Only this researcher knows the passcode. Data will be maintained for three years from completion of the study after which it will be securely deleted.

Anonymity. Once groups were created and assessments completed, the names were removed in order to protect participants from possible self-revealed problem areas such as alcoholism or PTSD. Redacting names from the reports decreased the possibility of identification of outcomes. For analysis purposes, all participants were assigned a numerical identifier.

Reducing risk of harm. The population in this study was potentially vulnerable due to the sensitive topics that were addressed (e.g., mental illness, risky behavior, etc.); therefore, information on support groups and counseling services were offered in case individuals needed to talk about their concerns. In addition, to plan for uncomfortable situations or topics that may trigger an emotional response with participants, this researcher provided the on-call number for

the University Counseling Center. The counselor on call remained accessible 24/7 for students who were experiencing any form of mental health crisis or emotional discomfort during this study.

Summary

The methodology, data collection, and data analysis presented in this chapter provides this study with the structure and support needed to validate the claim of the results. The researcher conducted a quantitative quasi-experimental design because there was an opportunity to experiment with a comparative and treatment group. Through identifying and confirming the internal and external validity of a similar study, this researcher confirmed that the instruments were valid tools for this study.

Two key outcomes were predicted for this study. First, with appropriate research, it may be possible to discover a causal relationship between social intervention, physical interventions, and one-on-one counseling among undergraduate student participants. Second, the delimitations and limitations of this study may affect the overall results, suggesting a need for another method of collecting data. Following, Chapter 4 reports the results from this study, followed by Chapter 5, which will include the findings as related to those found in the literature review.

Chapter 4: Results

Introduction

The purpose of this quasi-experimental study was to determine the effectiveness of a brief 4-week, online coaching preventive model for increasing positive coping behaviors in undergraduate college students. A two-group randomized quasi-experimental design was utilized for this study. Life coaching models may be a means of decreasing the number of mental health-related incidents occurring on campuses, providing more cost-sensitive services, and relieving some of the responsibilities placed on counseling centers (Pedrelli et al., 2015).

The between-subjects independent variable was the quasi-experimental group (intervention versus comparative), and the within-subjects independent variable was time, with a comparison of pre-intervention/post-intervention scores on a scale that measures coping. The participants were undergraduate students ages 18-22 at a large public university in the southeastern United States. Convenience sampling was used to recruit participants. This researcher relied on relationships with university personnel, flyers, email, and student referrals to recruit potential participants.

Once signed consent forms were received, the names of participants were alphabetized by last name. Subsequently, participants were randomly assigned to either the quasi-experimental group or the comparative group. The ability to randomly assign participants to an quasi-experimental or comparative group represented strength of the study because it helped to minimize differences between and within groups. Participants had an equal chance of being selected for each group. As a result, researcher bias, gender bias, ethnicity bias, and age bias were minimized.

The Ways of Coping Questionnaire (WOC) by Folkman and Lazarus (1988) was used as a measure of the dependent variable, coping skills. The WOC Questionnaire has been used extensively to measure coping with a wide range of populations over three decades that has included Chinese parents of adults with schizophrenia (Lam et al., 2015), African American mothers (Smyth, & Yarandi, 1996), and fibromyalgia patients (Van Liew, Santoro, Edwards, Kang, & Cronan, 2016). The WOC has eight subscales: confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. The names, alpha reliability, definition, and an exemplary item came from the authors Folkman and Lazarus (1988). This researcher tested three hypotheses:

- Undergraduate college students who complete a 4-week, life-coaching program will demonstrate statistically significant increases in WOC scores between baseline and a post-intervention.

- Undergraduate college students who do not complete a 4-week, life-coaching program will not demonstrate statistically significant increases in WOC scores between baseline and a post-intervention.

- Undergraduate college students who complete a 4-week, life-coaching program will demonstrate statistically significant increases in WOC scores compared to the control group who receives no intervention.

This chapter outlines the procedures used to test the hypotheses of this study. It begins with a description of the sample characteristics. Next, is a summary of the results followed by a detailed analysis for each research question. Research questions 1 and 2 examined within-group differences in coping skills as measured by the WOC Questionnaire for the quasi-experimental group and the comparative group from Time 1 (baseline) to Time 2 (post-intervention for the

quasi-experimental group). Research question 3 examined Group A (quasi-experimental group) and Group B (comparative group) between-group differences in coping skills as measured by the WOC Questionnaire at the end of the study.

Description of the Sample

This researcher screened all potential participants for inclusion criteria, which included being between the ages of 18 and 22 years old and enrolled full-time at a large public university in the southeastern United States during the spring semester in 2018. All participants in the study met these inclusion criteria.

Information about the study was distributed throughout the campus through verbal announcement, information sessions, and flyers (See Appendix B). Signed consent forms were received from 202 participants by the end of the two-week recruitment period (See Appendix D). This researcher used a random number generator available at Random.org to randomly assign the 202 participants to the quasi-experimental and comparative groups. Only 68 quasi-experimental group participants and 53 comparative group participants completed the baseline measures. All 53 participants in the quasi-experimental group completed all four sessions. At the end of the study, 53 quasi-experimental group participants and 45 comparative group participants had completed both measures.

Participant characteristics are reported separately for the intervention and comparative groups in Table 2. One hundred nine (89.8%) of the participants were sophomore or junior college undergraduates and 10.2% were seniors; fifth-year students were counted as seniors. The racial and gender breakdown of the participants were representative of the campus where the study was completed. This included 44.6% ($n = 54$) White, 30.6% ($n = 37$) Black or African American, and 7.4% (n = 9) Asian participants. Additionally, 17.4% ($n = 21$) identified as

"Other." Most of the participants who identified their race as "Other" indicated they were Hispanic-White ($n = 15$) or multi-racial (n = 4), while two who identified as "Other" did not indicate race.

Participants were 44.6% ($n = 54$) male and 55.4% ($n = 67$) female. Regarding sexuality, 81.8% ($n = 99$) identified as heterosexual, and 14.0% ($n = 17$) identified as lesbian or gay, bisexual, other, and prefer not to say. The remaining subjects chose not to respond. In terms of marital status, 116 (97.2%) were single and never married. Ninety-four (77.7%) of the participants reported to be employed (See Table 2).

Table 2

Study Sample Characteristics

Variable	Quasi-experimental group		Comparative group	
	N	%	*n*	%
Years of post-secondary education				
2 years	13	18.5	12	22.6
3 years	48	71.3	36	67.9
4 years	4	5.5	3	5.7
5 years	3	4.6	2	3.8
Race				
White	30	44.1	24	45.3
Black or African American	20	29.4	17	32.1
Hispanic White/Latino	9	13.2	6	11.3
Asian	5	7.4	4	7.5
Other	4	5.9	2	3.7
Gender				
Male	29	42.2	25	46.7
Female	39	57.8	28	53.3
Sexual orientation				
Bisexual	6	8.8	3	5.6
Heterosexual	54	79.4	45	84.9
Gay or Lesbian	5	7.3	3	5.7
Other	1	1.8	0	0
Prefer not to say	2	2.7	2	3.8
Marital status				
Never Married	66	97.2	50	94.3
Separated	1	1.4	1	1.8
Married	1	1.4	2	3.8
Employment status				
Working	52	76.4	42	79.5
Not working	15	22.2	11	20.5

| Prefer not to say | 1 | 1.4 | 0 | 0 |

Summary of the Results

This study involved several steps to address threats to internal validity. First, participants were randomly assigned to groups, which can help to minimize differences between treatment groups. Random assignment was achieved by use of a freely available application in order to lessen the researcher's unrecognized biases. Although the assignment was random, the sampling was not and therefore did not afford each member equal opportunity. While this researcher did not know the students personally or professionally, and numeric codes were assigned to their names upon data collection, the participant identities were available to this researcher, but the students were assured verbally and in writing, that all information obtained through this study would be held in confidence.

This research also employed a well-validated survey, The WOC Questionnaire (Folkman & Lazarus, 1988), to measure the dependent variable of interest (coping skills). There was some concern that the WOC Questionnaire was due for a revision; however, research indicates that the scale continues to be a useful and sensitive instrument for measuring coping skills (Lam et al., 2015; Van Liew et al., 2016). An online life-coaching curriculum previously developed and evaluated with a population like the population of interest in this study, undergraduate college students, was also used in this study.

For the three research questions, an independent samples *t*-test was used to analyze for differences between groups and within groups. *T*-tests are acceptable for comparing means that involve only two groups (Zimmerman, 1997); however, the assumptions of this test were that the difference of the scores from pre-intervention to post-intervention are normally distributed and have approximately equal variances.

Calculating the Shapiro-Wilk W test of normality (Ghasemi & Zahediasl, 2012; Shapiro & Wilk, 1972) tested the normality assumption (see Appendix F). This test is usually used for samples under 50, but it is accurate in samples up to 2,000 (Peat & Barton, 2005). Significance above 0.05 means the distribution meets normality assumptions. The result was $W = .994$ (120), $p = .883$. This supported the assumption that the data in this study were normally distributed.

The Levene's test for homogeneity of variances was used to assess the equality of variances in the intervention and comparative groups. Significance above .05 indicates equal variances. The results, $F1$ (1, 120) = .33, $p = .565$ and $F22$ (1, 106) = 3.28, $p = .073$ supported the assumption of equal variances. Therefore, the results supported the use of t-tests for analysis of data collected during this study.

Missing data constituted approximately 1.8% of the total number of possible responses. No single item had more than three (4.4%) missing responses. Missing data were imputed using mean substitution. Mean substitution can reduce variance estimates, which can result in biased or deflated standard error; however, the differences between mean substitution and more intensive methods of imputation have been shown to be negligible when used with variables missing less than 2% of their values (Saunders et al., 2006).

Independent samples t-tests were conducted to address each research question. In this study, an quasi-experimental group received an intervention aimed at improving coping skills and a comparative group received no intervention. All participants completed the WOC Questionnaire at baseline and 4 weeks later at the end of the study.

Participants were asked to rate their coping reactions in relation to a stressful event on a four-graded scale ranging from 0 (does not apply/not used) to 3 (used a great deal). Results were reported in eight clusters, each representing an aspect of the Folkman and Lazarus (1985)

transactional model of coping. The clusters included confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. More information about the subscales is available in Table 1 of Chapter 3.

Detailed Analysis

Hypothesis 1: "Undergraduate college students who complete a 4-week, life-coaching program will demonstrate statistically significant increases in WOC Questionnaire scores between baseline and a post-intervention." Independent samples t-tests were used to examine these differences, with a confidence interval of $> .95$. Table 3 presents the mean, standard deviation, and the t statistic along with its level of significance for each subscale.

Table 3

Pre-Post Means and Standard Deviations for the Treatment Group on the Ways of Coping Questionnaire Subscale Scores

Coping strategy	Treatment Group T1 $n = 68$		Treatment Group T2 $n = 53$			
	Mean	*SD*	Mean	*SD*	*t*	*P*
Confrontive coping	6.57	3.58	8.51	3.06	-2.91	<.001*
Distancing	6.51	2.59	9.06	2.63	5.32	<.001*
Self-controlling	8.60	3.08	9.66	2.93	-1.80	0.07
Seeking social support	7.34	3.73	9.53	3.32	-3.36	<.001*
Accepting responsibility	5.26	2.39	5.89	1.99	-1.53	0.13
Escape-Avoidance	8.87	4.17	10.55	4.59	2.10	0.04*
Planful problem-solving	9.00	3.94	10.64	3.23	-2.46	0.02*
Positive reappraisal	8.69	4.67	11.62	4.39	-3.52	<.001*
Overall WOC Score	7.67	3.70	9.56	3.36	-2.18	.05*

Note. *Indicates significant difference ($<.05$)

The quasi-experimental group participants exhibited statistically significant changes in coping skills. There was a positive and significant change in the WOC Questionnaire overall score from pre-test (*M* = 7.67, *SD* = 3.70) to post-test (*M* = 9.56, 3.36), *t* (52) = 2.18, *p* = .05. Therefore, the null hypothesis was rejected. Participants showed significant changes on six of eight WOC subscales.

On confrontive coping, there was a positive and significant change from pre-test (*M* = 6.57, *SD* = 3.58) to post-test (*M* = 8.51, *SD* = 3.06), *t* (52) = -2.91, *p* < .001. Pre-test coping using distancing (*M* =6.51, *SD* = 2.59) and post-test distancing (*M* =9.06, *SD* = 2.63) also had significant and positive change, *t* (52) = 5.32, *p* < .001, as did seeking social support scores between pre-test (*M* =7.34, *SD* = 3.73) and post-test (*M* =9.53; 3.32), *t* (52) = -3.36, *p* < .001.

Significant change was also observed between pre-test escape-avoidance (*M* = 8.87; *SD* = 4.17) and post-test escape-avoidance (*M* =10.55, *SD* = 4.59), *t* (52) = 2.10, *p* = 0.04; pre-test planful problem-solving (*M* = 9.00, *SD* = 3.94) and post-test (*M* = 10.64, *SD* = 3.23, *p* = 0.02), *t* (52) = -2.64, p = 0.02; and between pre-test positive reappraisal (*M* = 8.69, *SD*=4.67) and post-test positive reappraisal (*M* = 11.62, *SD* = 4.39), *t* (52) = -3.52, *p* < .001. Participants did not demonstrate significant change on the self-controlling subscale mean scores between pre-test (*M* =8.60, *SD* = 3.08) and post-test (*M* = 9.66, *SD*=2.93), *t* (52) = -1.80, *p* = 0.07. The same was true for the accepting responsibility subscales, where there was no statistical change between pre-test scores (*M* = 5.26, *SD* = 2.39) and post-test scores (*M* =5.89, *SD*=1.99), *t* (52) = -1.53, *p* = 0.13.

Hypothesis 2: "Undergraduate college students who do not complete a 4-week, life-coaching program will not demonstrate statistically significant increases in WOC Questionnaire scores between baseline and a post-intervention." Independent sample *t*-tests were used to examine differences in WOC Questionnaire scores with a confidence interval of > .95. Table 4

presents the mean, standard deviation, and the *t* statistic along with its level of significance for

each subscale.

Table 4

Pre-Post Means and Standard Deviations for the Comparative Group on the Ways of Coping Questionnaire Subscale Scores

| Coping strategy | Comparative Group T1 | | Comparative Group T2 | | | |
| | n = 53 | | n = 45 | | | |
	Mean	SD	Mean	SD	t	P
Confrontive coping	5.49	3.06	7.56	4.13	2.70	.01*
Distancing	6.24	3.66	7.31	3.92	1.11	0.27
Self-controlling	7.51	3.23	9.69	4.36	2.83	0.01*
Seeking social support	7.32	4.45	10.00	5.22	2.74	0.01*
Accepting responsibility	5.15	2.84	5.24	2.89	0.16	0.87
Escape-Avoidance	8.30	4.65	10.00	5.51	1.66	0.10
Planful problem-solving	7.26	3.77	10.22	3.98	3.77	<.001*
Positive reappraisal	7.23	4.35	9.89	6.23	2.48	.01*
Overall WOC Score	6.01	1.48	8.82	3.23	2.33	.03*

Note. *Indicates significant difference ($< .05$)

There was a positive and significant change in the WOC Questionnaire overall score from pre-test ($M = 6.01$, $SD = 1.48$) to post-test ($M = 8.82$, $SD = 3.23$), t (44) = 2.33, $p = .03$. Therefore, the null hypothesis was rejected. Comparative group participants exhibited changes on five of eight WOC Questionnaire subscales.

On confrontive coping, there was a positive and significant change from pre-test ($M = 5.49$, $SD = 3.06$) to post-test ($M = 7.56$, $SD = 4.13$), t (44) = 2.70, $p = 0.01$. There was a significant change between self-controlling scores between pre-test ($M = 7.51$, $SD = 3.23$) and post-test ($M = 9.69$; 4.36), t (44) = 2.83, $p = 0.01$. Significant change was also observed between pre-test seeking social support ($M = 7.32$; $SD = 4.45$) and post-test seeking social support ($M = 10.00$, $SD = 5.22$), t (44) = 2.74, $p = 0.01$. Participants also demonstrated significant and

positive change in pre-test planful problem-solving ($M = 7.26$, $SD = 3.77$) and post-test planful problem-solving ($M = 10.22$, $SD = 3.98$), $t(44) = 3.77$, $p < .001$.

Significant change was not observed on the following: pre-test distancing ($M = 6.24$, $SD = 3.66$) and post-test distancing ($M = 7.31$, $SD = 3.92$), $t(44) = 1.11$, $p = 0.27$; pre-test accepting responsibility ($M = 5.15$, $SD = 2.84$) and post-test accepting responsibility ($M = 5.24$, $SD = 2.89$), $t(44) = 0.16$, $p = 0.87$; pre-test escape-avoidance ($M = 8.30$, $SD = 4.65$) and post-test escape-avoidance ($M = 10.00$, $SD = 5.51$), $t(44)$ 1.66, $p = 0.10$; and pre-test positive reappraisal ($M = 7.23$, $SD = 4.35$) and post-test positive reappraisal ($M = 9.89$, $SD = 6.23$), $t(52) = 2.48$, $p = 0.01$.

Hypothesis 3: "Undergraduate college students who complete a 4-week, resilience intervention will demonstrate statistically significant increases in WOC Questionnaire scores compared to the comparative group who receives no intervention." Independent sample t-tests were used to examine the WOC Questionnaire scores with a confidence interval of $> .95$. Table 5 presents the mean, standard deviation, and the t statistic along with its level of significance for each subscale.

Table 5

Posttest Means and Standard Deviations for the Treatment and Comparative Groups on the Ways of Coping Questionnaire Subscales

Coping strategy	Treatment Group n = 53		Comparative Group n = 45			
	Mean	SD	Mean	SD	t	p
Confrontive coping	6.56	3.58	5.49	3.06	1.65	0.10
Distancing	6.51	2.59	6.42	3.66	1.66	0.88
Self-controlling	8.01	3.08	7.51	3.23	-0.88	0.38
Seeking social support	7.34	3.73	7.31	4.45	-0.02	0.98
Accepting responsibility	5.26	2.39	5.15	2.84	-0.24	0.81
Escape-Avoidance	8.87	4.17	8.30	4.65	-0.70	0.48

Planful problem-solving	9.66	3.94	7.26	3.77	3.13	<.001*
Positive reappraisal	9.23	4.35	7.23	4.67	2.31	0.02*
Overall WOC Score	8.82	3.22	9.56	3.36	2.18	.41

Note: *Indicates significant difference (< .05)

There was no significant difference in the WOC Questionnaire overall score between the treatment group ($M = 8.82$, $SD = 3.22$) and the comparative group ($M = 9.56$, $SD=3.36$), t (97) = 2.18, $p = .41$. Therefore, the researcher failed to reject the null hypothesis. Differences between the treatment group and comparative group participants were exhibited on only two of eight WOC Questionnaire subscales.

There was a significant difference between the treatment group planful problem-solving mean subscale score ($M = 9.66$, $SD = 3.94$) and comparative group problem-solving mean subscale score ($M = 7.26$, $SD = 3.77$), t (97) = 3.13, $p < .001$. There was also a positive and significant difference between treatment group positive reappraisal mean subscale scores ($M = 9.23$, $SD = 4.35$) and comparative group positive reappraisal mean subscale scores ($M = 7.23$, $SD = 4.67$), t (97), $p = 0.02$.

No significant differences were evident on any of other mean subscales scores for the following: treatment group confrontive coping ($M = 6.56$, $SD = 3.58$) and comparative group confrontive coping ($M =5.49$, $SD=3.06$), t (97) = 1.65, $p = 0.10$; treatment group distancing ($M = 6.51$, $SD = 2.59$) and comparative group distancing ($M = 6.42$, $SD = 3.66$), t (97) = 1.66, $p = 0.88$; treatment group self-controlling ($M = 8.01$, $SD =3.08$) and comparative group self-controlling ($M = 7.51$, $SD = 3.23$), t (97) = -0.88, $p = 0.38$; treatment group seeking social support ($M =7.34$, $SD = 3.73$) and comparative group seeking social support ($M = 7.31$, $SD =4.45$), t (97) = -0.02, $p = 0.98$; treatment group accepting responsibility ($M = 5.26$, $SD = 2.39$) and comparative group accepting responsibility ($M = 5.15$, $SD = 2.84$), t (97) = -0.24, $p = 0.81$;

and treatment group escape-avoidance ($M = 8.87$, $SD = 4.17$) and comparative group escape-avoidance ($M = 8.30$, $SD = 4.65$), $t(97) = -0.70$, $p = 0.48$.

Summary

This study used the *Transforming Lives through Resilience Education* online life coaching curriculum developed by Steinhardt and Dolbier (2008) as a preventive intervention. The curriculum was delivered as four asynchronous online sessions of approximately 45 minutes each. The sessions were accessed asynchronously, and participants were given homework activities that were due weekly. A matched comparative group received no intervention.

Three hypotheses regarding undergraduate student response to the online life coaching curriculum were tested in this study. The first hypothesis was that the quasi-experimental group mean WOC Questionnaire scores would indicate improved coping skills from baseline to post-intervention. This hypothesis was largely supported, as the quasi-experimental group showed statistically significant improvement on six of eight WOC Questionnaire subscales. The second hypothesis was that the comparative group mean WOC Questionnaire scores would show no significant difference from baseline to the end of the study. The comparative group did show statistically significant improvement on five of the eight subscales. The comparative group did not demonstrate significant change on the distancing, accepting responsibility, or escape-avoidance subscales. The third hypothesis was that the quasi-experimental group participants would show significantly more improvement in coping skills than the comparative group participants. In a comparison of end-of-study WOC Questionnaire subscale means, the quasi-experimental group made more progress than the comparative group on two subscales: planful problem-solving and positive reappraisal. However, participants did not show significant differences on the following six subscales: confrontative coping, distancing, self-controlling,

seeking social support, accepting responsibility, and escape-avoidance. The following chapter

will discuss these findings and how the findings impact the field.

Chapter 5: Discussion

Introduction

There has been limited quantitative research regarding how colleges and universities may be able to help students cope with the exigencies of college life (Badra, 2014; Gaffney, 2016; Sancrant, 2014). This study was an attempt to fill a literature gap regarding the effectiveness of life coaching programs for college students' positive adaptation to college life, a need that has been identified by previous research (Aradilla et al., 2014; Slavin et al., 2014). Using a two-group randomized quasi-experimental design, the study examined the effectiveness of a brief online life coaching program to improve undergraduates' coping skills. Improved coping skills are related to increased resilience—the ability to withstand, overcome, or transcend life stress (Bronfenbrenner, 1994; Folkman & Lazarus, 1988).

The impetus for this study was the increasing need for mental health support on college campuses. College counseling center directors in the United States have reported increased severity of students' presenting problems, and campus counseling center usage rates are at record highs (Center for Collegiate Mental Health, 2017). University counseling centers are struggling to keep up with demand for services. These centers have traditionally provided services under a triage model that emphasizes crisis response (Brunner et al., 2014).

With a growing number of referrals and a need to address more intensive mental health needs of students, there is a need for alternative models of mental health service to student populations. Specifically, there is a need for more prevention-oriented mental health services on college campuses (Association for University and College Counseling Center Directors, 2016). Such programs should be cost-effective and consider non-traditional modes of delivery such as online programming. However, perhaps more importantly, a primary prevention approach

(Tulchinsky & Varavikova, 2014) could promote mental health and help individuals protect against exposure to risks that lead to health and mental health problems.

The transactional model of stress and coping (Folkman & Lazarus, 1984) supports a primary prevention approach, which has provided the foundation for much of the stress- related research of the past 35 years. While the transactional model is often cited in research that examines the negative effects of stress, this model also emphasizes the use of natural personal and exosystemic strengths in adaptation and learning alternatives for coping with stress. In the context of college life and mental health, a "strengths" approach might include identifying and learning positive coping methods such as getting rest, exercising, and judicious use of self-care that are being neglected. The college campus, serving as the student's ecosystem (Bronfenbrenner, 1994), might also offer support in terms of positive coping models.

Primary prevention aims to build resilience. Several intervention types can be termed as primary prevention. This study assessed an online life coaching approach to mental health primary prevention through teaching basic coping. According to Stober and Grant (2006), the primary goal of life coaching is to initiate behavioral changes that will facilitate goal attainment and performance enhancement. Life coaching approaches may be most useful for individuals and populations whose mental health needs have not escalated to a crisis level, meaning they are managing to maintain personal, academic, work, or relationship goals, albeit with high levels of subjective stress (Ammentorp et al., 2013).

This chapter summarizes the results of this study and is followed by a discussion of the results as they relate to the existing literature. Implications for future research and practice are also presented. The limitations of the research and potential ways to address them in future research are presented as the chapter concludes.

Summary of the Results

This two-group randomized quasi-experimental study assessed an online life coaching prevention model designed to enhance coping skills in college undergraduates. Three research questions were posed at the beginning of the study.

RQ1: What difference exists in the WOC scores among participants taking part in a life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

$H1_0$: There is no mean difference in WOC scores among participants from pre-intervention to post-intervention.

$H1_A$: There is a mean difference in WOC scores among participants from pre-intervention to post-intervention.

RQ2: What difference exists in WOC scores among participants who did not participate in the life-coaching program from time 1 (pre-intervention) to time 2 (post-intervention)?

$H2_0$: There is no mean difference in WOC scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

$H2_A$: There is a mean difference in WOC scores among participants who did not participate in the intervention from pre-intervention to post-intervention.

RQ3: What difference exists in WOC scores between participants who participated in the life coaching program and those who did not participate in the program?

$H3_0$: There is no mean difference in WOC scores between participants who participated in the intervention and those who did not participate in the program.

$H3_A$: There is a mean difference in WOC scores between participants who participated in the program and those who did not participate in the program.

This quasi-experimental study used the *Transforming Lives through Resilience Education* online life-coaching curriculum developed by Steinhardt and Dolbier (2008) as a preventive intervention. This curriculum was selected since it is one of the few online life coaching curricula developed for use with college undergraduates that has empirical support. The curriculum was delivered as four asynchronous online sessions of approximately 45 minutes each. The sessions were accessed online, asynchronously, and participants were given homework activities that were due weekly. The comparative group received no intervention.

This study posited three hypotheses regarding undergraduate student response to the online life-coaching curriculum. The first hypothesis stated that the quasi-experimental group mean WOC Questionnaire scores would indicate improved coping skills from baseline to post-intervention. This hypothesis was largely supported, as the quasi-experimental group showed statistically significant improvement on six of eight WOC Questionnaire subscales. The quasi-experimental group participants exhibited statistically significant changes in coping skills. There was a positive and significant change in the WOC Questionnaire overall score from pre-test ($M =$ 7.67, $SD = 3.70$) to post-test ($M = 9.56$, 3.36), $t (52) = 2.18$, $p = .05$. Participants showed significant changes on six of eight WOC Questionnaire subscales: confrontive coping, distancing, seeking social support, escape-avoidance, planful problem solving, and positive reappraisal. These results support the transactional model of stress and coping (Folkman & Lazarus, 1984), which emphasizes two broad coping strategies. One strategy is problem-focused, that is, centered on behavioral change. Behavioral change strategies are reflected in confrontive coping (aggressive efforts to alter the situation), seeking social support (informational support, tangible support, and emotional support), escape-avoidance (finding ways to escape the problem), and planful problem-solving (developing and implementing a plan

of action). The other strategy involves cognitive change. Cognitive change strategies are reflected in distancing (cognitive efforts to detach oneself and minimize problem significance) and positive reappraisal (focusing on personal growth in stressful situations).

The transactional model emphasizes two major ideas that support improving coping: the malleability of coping strategies and identifying eco-systemic coping resources. Locating positive coping resources in one's personal ecosystem often includes identifying one's previous successes, identifying and nurturing reliable networks of social support, and using formal services as needed. In the context of college life and mental health, a "strengths" approach might include identifying and practicing positive coping methods such as getting rest, exercising, and judicious use of self-care. The college campus, as the student's ecosystem (Bronfenbrenner, 1994), might also offer support in terms of positive coping models, counseling services, and prevention services.

The two subscales that reported no change included the self-controlling (making efforts to regulate one's feelings and actions) and accepting responsibility (acknowledgement of one's role in the problem) subscales. In this study, the baseline meant the self-controlling subscale was already at the high end of the scale; therefore, the lack of significant change might have been due to a ceiling effect. In other words, there was little room for increasing the score. The baseline accepting responsibility subscale mean was relatively low and remained the lowest subscale score mean. While more research is needed to assess the strengths and weaknesses of the curriculum, the results of this study suggest that it might do more to emphasize the role of personal responsibility in adapting to new or challenging circumstances.

The second hypothesis of this study stated that the comparative group mean WOC Questionnaire scores would show no significant difference from baseline to the end of the study.

The comparative group did show statistically significant improvement on five of the eight subscales. There was a positive and significant change in the WOC Questionnaire overall score from pre-test ($M = 6.01$, $SD = 1.48$) to post-test ($M = 8.82$, $SD = 3.23$), t (44) = 2.33, $p = .03$. Therefore, the null hypothesis was rejected. Comparative group participants exhibited changes on five of eight WOC Questionnaire subscales. On confrontive coping, there was a positive and significant change from pre-test ($M = 5.49$, $SD = 3.06$) to post-test ($M = 7.56$, $SD = 4.13$), t (44) = 2.70, $p = 0.01$. There was a significant change between self-controlling scores between pre-test ($M = 7.51$, $SD = 3.23$) and post-test ($M = 9.69$; 4.36), t (44) = 2.83, $p = 0.01$. Significant change was also observed between pre-test seeking social support ($M = 7.32$; $SD = 4.45$) and post-test seeking social support ($M = 10.00$, $SD = 5.22$), t (44) = 2.74, $p = 0.01$. Participants also demonstrated significant and positive change in pre-test planful problem-solving ($M = 7.26$, $SD = 3.77$) and post-test planful problem-solving ($M = 10.22$, $SD = 3.98$), t (44) = 3.77, $p < .001$.

Significant change was not observed on the following: pre-test distancing ($M = 6.24$, $SD = 3.66$) and post-test distancing ($M = 7.31$, $SD = 3.92$), t (44) = 1.11, $p = 0.27$; pre-test accepting responsibility ($M = 5.15$, $SD = 2.84$) and post-test accepting responsibility ($M = 5.24$, $SD = 2.89$), t (44) = 0.16, $p = 0.87$; pre-test escape-avoidance ($M = 8.30$, $SD = 4.65$) and post-test escape-avoidance ($M = 10.00$, $SD = 5.51$), t (44) 1.66, $p = 0.10$; and pre-test positive reappraisal ($M = 7.23$, $SD = 4.35$) and post-test positive reappraisal ($M = 9.89$, $SD = 6.23$), t (52) = 2.48, $p = 0.01$. It is possible the lack of significant results is due to maturation; that is, all undergraduate students are apt to improve coping skills over time. Many of the students in this study had two or more years of experience in college. Therefore, coaching skills programs might have more effect on freshmen students.

The third hypothesis stated that the quasi-experimental group participants would report significantly more improvement in coping skills than the comparative group participants. There was no significant difference in the WOC Questionnaire overall score between the treatment group ($M = 8.82$, $SD = 3.22$) and the comparative group ($M = 9.56$, $SD=3.36$), t (97) $= 2.18$, $p = .41$. Therefore, the researcher failed to reject the null hypothesis. Differences between the treatment group and comparative group participants were exhibited on only two of eight WOC Questionnaire subscales. There was a significant difference between the treatment group planful problem-solving mean subscale score ($M = 9.66$, $SD = 3.94$) and comparative group problem-solving mean subscale score ($M = 7.26$, $SD = 3.77$), t (97) $= 3.13$, $p < .001$. There was also a positive and significant difference between treatment group positive reappraisal mean subscale scores ($M = 9.23$, $SD = 4.35$) and comparative group positive reappraisal mean subscale scores ($M = 7.23$, $SD = 4.67$), t (97), $p = 0.02$.

No significant differences were evident on any of other mean subscales scores for the following: treatment group confrontive coping ($M = 6.56$, $SD = 3.58$) and comparative group confrontive coping ($M =5.49$, $SD=3.06$), t (97) $= 1.65$, $p = 0.10$; treatment group distancing ($M = 6.51$, $SD = 2.59$) and comparative group distancing ($M = 6.42$, $SD = 3.66$), t (97) $= 1.66$, $p = 0.88$; treatment group self-controlling ($M = 8.01$, $SD =3.08$) and comparative group self-controlling ($M = 7.51$, $SD = 3.23$), t (97) $= -0.88$, $p = 0.38$; treatment group seeking social support ($M =7.34$, $SD = 3.73$) and comparative group seeking social support ($M = 7.31$, $SD =4.45$), t (97) $= -0.02$, $p = 0.98$; treatment group accepting responsibility ($M = 5.26$, $SD = 2.39$) and comparative group accepting responsibility ($M = 5.15$, $SD = 2.84$), t (97) $= -0.24$, $p = 0.81$; and treatment group escape-avoidance ($M = 8.87$, $SD = 4.17$) and comparative group escape-avoidance ($M = 8.30$, $SD = 4.65$), t (97) $= -0.70$, $p = 0.48$.

As shown in a comparison of end-of-study WOC Questionnaire subscale means (see Table 5), the quasi-experimental group made more progress than the comparative group on two subscales: planful problem-solving (developing and implementing a plan of action) and positive reappraisal (focusing on personal growth in stressful situations). As reported, both the intervention and comparative groups reported higher scores over time, thus between-group differences at the end of the study were modest.

Discussion of the Results

It was anticipated that changes in coping skills would be attributable to online life coaching participation. Participants in the quasi-experimental group did improve significantly over the course of the study in six of eight areas of coping measured by the WOC Questionnaire; however, the comparative group also experienced statistically significant growth in five of eight areas of coping over the course of the study. This suggests there may be other important coping skill facilitators for undergraduate students besides the life-coaching curriculum used in the study.

It is possible the results are due to maturation; that is, undergraduate students improve their coping skills over time with no specialized preventive services. Another possible explanation for the intervention and comparative group score equivalence is that since many of the participants from both groups were either classmates or friends, those in the quasi-experimental group shared coping skills that they learned in the online life coaching curriculum with those they knew in the comparative group. This behavior was not formally measured, though, anecdotally; quasi-experimental group participants admitted discussing some of the ideas from the curriculum with friends who were in the comparative group.

Another possibility for the results could be that participating in the study helped all student participants regardless of their assignment to the intervention or comparative group by focusing attention and effort toward improving coping skills. The participants in this study also had 2-3 years of college experience. These students could have had time to develop skills to cope with the academic and social pressures associated with college life. Students who had struggled with those pressures might already have had intensive services in place or could have discontinued their studies or reduced their course loads to part-time, making them ineligible for this study.

The WOC Questionnaire authors (Folkman & Lazarus 1988) and subsequent researchers using the measures (Lam et al., 2015; Van Liew et al., 2016) have cautioned against overly simplistic interpretations of the subscales. The lack of pre-post score changes on the WOC Questionnaire accepting responsibility subscale in this study should not be interpreted as participants' inability to change. Rather, the results do suggest that the *Transforming Lives through Resilience Education* online life-coaching curriculum might not have a significant effect on facilitating acceptance of responsibility.

Discussion of the Results in Relation to the Literature

For the past decade, university counseling center staff across the United States have experienced higher numbers of referrals for mental health services (American College Health Association, 2014; Association for University and College Counseling Center Directors, 2016). For this study, an online life coaching model was chosen, since it had potential to make programming more accessible to students with busy schedules, which is important given the increasing number of undergraduate students who are also employed (American College Health Association, 2014).

Over the past two decades, the use of web-based interventions has increased rapidly, as more people have access to the internet (Reynolds et al., 2015). Mental health programs delivered online have enormous potential for increasing service access (Roxon et al., 2011), especially for those who experience time constraints, limited transportation options, or geographic isolation. The *Transforming Lives through Resilience Education* online life-coaching program can be self-paced or guided by a facilitator. This was an asynchronous, self-paced intervention in which the participant logged into a common site but completed activities independently. Participants were responsible to fellow participants for sharing resources and thoughts about the curriculum through a discussion board. This researcher, who had access to the user's work page, logged in to check the users' work.

It is possible that the novelty of online coaching for the researcher affected the outcomes of the study. Implementing programs involves both adherence and competence (Aarons et al., 2012). Adherence is synonymous with fidelity or following the precise format of the protocol. Adherence is usually viewed as essential to establishing empirically-supported programs (Nils, 2015). Alternately, implementation competence refers to the facilitator's skills used to deliver the protocol, such as responsiveness to the program participants and presenting program components in ways that reflects the needs of an individual or group (Aarons, et al., 2012; Waltz, Addis, Koerner, & Jacobson, 1993). While careful attention was given to implementing the online coaching with fidelity to the model, there was less attention to the way it was facilitated.

An important component of online program engagement is facilitator "presence" (Peery & Veneruso, 2011). There is no consensus definition of presence in the online literature, but generally presence involves two components (Watts, 2017). First, participants must have be confident that a facilitator is available to respond to questions and, if needed, help them navigate

the online course if needed. This can be stated in the program materials and by responding

relatively quickly to requests. The second component is facilitator sharing of self (Peery &

Veneruso). In face-to-face interactions, a program facilitator sends cues about their interaction

preferences and personal style. Participants make assumptions about the facilitator based on his

or her appearance, speech patterns, mannerisms, and other forms of nonverbal communication

(Watts, 2017). The accuracy of these assumptions is not as important as their ability to help the

program participant project how they should interact with the facilitator. Online program

facilitators can improve sharing of self by posting audiovisual recordings weekly. Lack of

attention to the competence aspect of facilitation might have diminished engagement.

While research thus far suggests that most online mental health programs have outcomes

that are like outcomes obtained face-to-face (Cavanagh et al., 2011; Collett, 2008; Mohr et al.,

2011), the needs of a target population should be considered. Research also suggests that

undergraduates early in their college careers are more interested in forming positive, personal

relationships with staff, faculty, and institutions than receiving information (Pecka, 2011;

Sancrant, 2014; Thomas, 2015). It is possible that programs aimed at improving coping skills

are more effective if delivered face-to-face or as a hybrid face-to-face/online program. Further

research that compares delivery modes might be helpful in answering this question.

The transactional model of stress and coping has provided a foundation for a large body

of research over three decades. This model also provided support to the now-flourishing body of

literature on posttraumatic growth (Calhoun & Tedeschi, 2014) and positive psychology

(Schwitzer, 2016; Wright, 2017). This study contributes to that literature by further testing a

specific life-coaching model. Thirty years after Folkman and Lazarus (1988) published their

work, there remains a need to develop and resource programs that address the needs of specific

populations. Cognitive-behavioral intervention, which is focused on how individuals adapt and cope more effectively, has proliferated (Dziegielewski et al., 2004); however, more research is needed to examine the effectiveness of resource programs for specific populations. A review of the research for this study suggests that many intervention programs remain focused on developing individual student coping skills. Fewer intervention programs address what types of resources in the student's ecosystem are most beneficial to them.

While the *Transforming Lives through Resilience Education* curriculum does address the development of supports, it does little to promote the development of formal, institutional resources. Perhaps it is easier for large systems such as universities to expect students to adapt and cope with what is available rather than asking how the system can change to support the student. This speaks to the need for more campuses to examine how faculty and staff support student coping skills. This might mean developing new resources or perhaps retooling current systems.

Limitations

This research was limited in three primary ways. First, the use of a convenience sample for recruiting purposes in this study limits generalizability of the results to all undergraduate college students. At best, the results are generalizable to students on the campus where the study was conducted. Recruitment from a second campus or a well-funded national study would have enhanced the generalizability of the results.

Second, this study recruited 202 participants, but only 121 began the study and only 98 completed the entire study. The recruitment plan appears to have been sound in terms of providing an introduction section, offering to answer questions, and sending reminders to those who were interested in participating. Future researchers might consider providing more

89

guidance on accessing measures needed to begin the study – the demographic form and the

WOC Questionnaire. Another means of engaging students in future research might include one-on-one live assistance, a PowerPoint demonstration that includes explicit instructions for

accessing the online forms, or the use of a video to visually demonstrate how to access forms and

the curriculum.

Third, this researcher relied on self-reported data from the participants. Self-reported

data are subject to error due to exaggeration, recall problems, and social desirability bias

(Gittelman et al., 2015). In this study, for example, the quasi-experimental group might have felt

the need to demonstrate gains in coping skills to please this researcher. This is a perennial

problem for all researchers. One means of potentially minimizing social desirability bias would

be to have an assistant to the primary investigator collect the data while ensuring that the

researcher is blind to the results. On a related note, neither the researcher nor the participants

were blind to whether participants were in the quasi-experimental group or the comparative

group. Randomization minimizes differences between treatment groups, but that is not a

guarantee against differential treatment of groups in ways that could affect results.

Implications of the Results for Practice, Policy, and Theory

The somewhat equivalent results for the intervention and comparative groups do not

necessarily mean that preventive intervention to develop coping skills is not important or useful

for college undergraduates. Most of the participating students in this study had two or three years

of college experience. Research suggests that students who struggle the most with the transition

to college life are at higher risk (Farrer et al., 2013; Harris-Caldwell, 2015). It is possible that

those who struggled to adapt to college life left their programs or reduced their course loads.

Consequently, as suggested by other research (Slavin et al., 2014), it might be more useful to

offer primary prevention programs to enhance coping in students with less experience, for example, freshmen, sophomores, and transfer students.

The mental health dilemma facing higher education is likely to continue for some time (Wood, 2012). Programs such as *Transforming Lives Through Resilience Education* (Steinhardt & Dolbier, 2008), offered as preventive intervention, can accomplish three goals of colleges and universities related to mental health. First, such programs can raise awareness of the need for student mental health support (Hunt et al., 2012). Second, the presence of such programs can help students begin to see their own transition anxiety as normative, and in that way, relieve some burden on college counseling centers. Third, students might embrace mainstream campus life more readily if they perceive that the campus is making efforts to support them (Wood, 2012). Students who embrace mainstream campus life are less likely to engage in binge-drinking and are more likely to experience higher grades (Mason et al., 2014).

In the current study, most participants experienced increases in social support coping, though it is not clear where they received this support. Additional research may be useful in clarifying their preferences for seeking support. The literature review for this study indicated the importance of relationship building between institutional staff and students. Students, especially earlier in their academic careers, value relationships with university faculty and staff (Sancrant, 2014; Thomas, 2015). Faculty and staff have many demands placed on them, so it might not be realistic to ask faculty and staff to do more. However, the goal of supporting students might be met in other ways such as incorporating coping skills programming into core curriculum requirements for incoming college freshmen. This could take the form of a one credit hour course aimed at improving coping skills. The classes should be small enough that students can get to know their facilitator/instructor. The facilitator should be a regular faculty or staff

member with an advanced degree in student development, not a graduate student or part-time instructor.

Demand for mental health services on university campuses has increased significantly, and this trend is likely to continue (Association for University and College Counseling Center Directors, 2016). Federal legislation to support universities' response to this need has resulted in programs such as the MHFA program, which is designed to train faculty, administrators, and other students on how to recognize early warning signs of mental health crises in university-enrolled students (Lipson et al., 2014). While this legislative support is important, there is still a need for programming that helps students build coping skills that build resilience and avert crises. This study did not perform a cost analysis; however, it is generally known that waiting to address mental health concerns until they reach crisis level is more time and resource intensive (Szabo, 2014).

Empirical support for specific prevention programs, such as the one used in this study, are still being developed. In the short term, universities could be encouraged to design their own programs, perhaps supported by competitive foundation or governmental funding that reflect what is known about effective programming with undergraduate students. This includes intervening early in the students' enrollment, creating a program that requires students' active participation (O'Leary & Ickovics, 1995), and an emphasis on relationship building with university personnel (Sancrant, 2014; Thomas, 2015). Such programming may be a challenge to implement due to the exigencies of reassigning faculty time and ensuring student participation. Student participation could be assured by making life skills a required part of the curriculum at a university, though university administrators would need to build faculty support and weigh the costs of the program against potential benefits.

The literature suggests that students benefit more from relationship building than information sharing. It is not clear that another mandatory course, with its inherent emphasis on competing for grades, would achieve relationship building and a better sense of campus support. At the university level, it is also important to re-evaluate policies and procedures for identifying and making referrals for mental health needs of students. A primary prevention approach to dealing with student mental health concerns has potential; however, it is important that those involved in prevention have resources for students with urgent needs and feel comfortable making recommendations for service. The MHFA program is developing a model that trains non-mental health professionals in how to help students with mental health concerns.

This study relied on the Folkman and Lazarus (1985) theory of transactional stress and coping. The authors' understanding of stress, coping, resilience, and risk has provided the foundation for most stress and mental health research for over three decades. Their work has also provided a springboard for the development of positive psychology (Wright, 2017) and research on posttraumatic growth (Calhoun & Tedeschi, 2014).

Transactional theory grew out of Bronfenbrenner's (1994) ecosystems theory. Both ecosystems theory and transactional theory provided a needed expansion of many mid-twentieth century, one-dimensional personality theories that often tried to impose universal, all-encompassing explanations. Rather than trying to explain behavior by reducing it to just a few principles (e.g., id, ego, and superego), ecosystems theory has emphasized the need to understand behavior as contextual.

Ecosystems theory and the transactional theory of stress and coping both emphasize the need to understand the changing circumstances that promote or restrict adaptation. Both leave room for research on ways to optimize environments in order to improve adaptation. Folkman

and Lazarus (1985) emphasized that coping skills are not traits but are subject to change under the right conditions. The results of this study support this assumption. All participants in the study experienced some level of positive change in their coping skills. Even for those in the comparative group, the study acted as a catalyst to focus on their stress management skills.

While students experienced positive change, it is important to recognize that the transactional model of stress has roots in ecological theory (Folkman & Lazarus, 1985). As such, the transactional theory posits that students arrive at college with different levels and types of exposure to stress. It is important for contemporary educators, mental health practitioners, and social scientist to re-examine the conditions to which young adults transitioning to college are expected to adapt quickly, but they arrive with highly variable skill sets in stress management. Some will have experienced toxic stress, which is high levels of stress sustained at high levels over long periods of time (Centers for Disease Control and Prevention, 2017). Racial and ethnic minority students are more likely to have exposure to toxic stress (Mersky, Topitzes, & Reynolds, 2013). Questions that must be considered are regarding the psychological needs of students entering college during a time of rapid social, political, and technological change, how these changes in the ecosystem are affecting their ability to with the transition to the college environment and what changes in the collegiate ecosystem are needed to facilitate better coping skills in transitioning students. Teaching better coping skills to entering college students is one strategy for facilitating this transition; however, from a transactional perspective, the environment where they find themselves also deserves attention from researchers, evaluators, and theoreticians.

Recommendations for Further Research

This study supports several recommendations for future research. First, it is possible that a longer period of intervention would yield more significant outcomes for participants. Future research should consider evaluating primary prevention programs over longer periods of time. This could involve a longer period of intervention, obtaining follow-up data at perhaps 3, 6, or 12 months, or a combination of longer periods of intervention and long-term follow-up. A comparative group would be essential to this research for the purposes of addressing maturation effects.

Second, while previous research has shown the efficacy of online life coaching, more research is needed to assess the online coaching program's performance with undergraduates. For this study, all potential participants were recruited through classroom presentations and flyers. Although this study was strengthened by using random assignment to treatment and comparative groups, convenience sampling was based on student responses to either a flyer or a classroom presentation. This may have caused the results to be somewhat skewed because of potential relationships between participants. Anecdotally, students in the quasi-experimental and comparative groups discussed the curriculum. It is possible that students in the comparative group received some of the guidance offered in the curriculum from their friends in the quasi-experimental group. In the future, researchers might consider conducting the study on two campuses that are demographically similar, although this is likely to complicate or eliminate the possibility of random assignment to groups.

Third, to facilitate participation, researchers might need to give explicit and technology-enhanced directions for accessing the measures used in the study and the curriculum. Additionally, small incentives might also enhance participation. A meta-analysis by Jobber,

Saunders, and Mitchell (2014) supported the use of incentives in studies. Supporting social exchange theory (Blau, 1964) and longstanding findings in social science research with human subjects, Jobber, Saunders, and Mitchell found that the value of the incentive is not particularly important; rather, the incentive serves as a mean of establishing trust and a sense of reciprocity between the researcher and the participants.

Fourth, researchers might find that undergraduate students benefit more from coping skills development programs as freshmen when they are at the beginning of their college careers. Future research should perhaps focus on that group of students.

Fifth, more research is needed to examine the extent to which the *Transforming Lives through Resilience Education* helps undergraduate students develop coping skills as opposed to other issues such as psychiatric symptomology. While related to coping skills, psychiatric symptoms are conceptually distinct.

Sixth, it is possible that programs aimed at improving coping skills are more effective if delivered face-to-face or as a hybrid face-to-face/online program. Further research that compares delivery modes might be helpful in answering this question.

Seventh, another important consideration would be to replicate this study but identify reasons for attrition among those who signed consent forms. As it was, there were more male than female participants (almost 2:1) who agreed to participate but did not complete the pretest, or posttest, or any part of the program. There were more drop-outs of the program from the quasi-experimental group than the comparative group. This was calculated using the number who completed the pretest but did not complete the posttest measure. Identifying reasons for this could shed light on not only delivery format, but also on reasons for not participating, which

could be due to mental health issues from the outset. This is an important piece to identify in supporting persistence to graduation for many students.

Lastly, researchers should consider using a mixed-methods approach to better understand students' responses to the coping skills curriculum. This could take two forms. One form of qualitative follow-up research might consist of interviews with participants. Post-training interviews would attempt to understand the extent to which the curriculum addressed their specific concerns. The interview data could be mined for themes that would inform revisions in the future. Another form of qualitative inquiry could be an intensive case study using narrative inquiry with participants from this study. Intensive case studies provide readers with the social context of the subjects' lives (Lewis, 2015). Case studies might be more useful to college administrators and mental health program directors in understanding the transition to college life from a student-centered perspective.

Conclusion

Attending college involves leaving family and friendship networks, adapting to new living arrangements, and taking greater responsibility for self-monitoring behavior. The number of college students who report distress severe enough to interfere with their studies has been increasing rapidly over the past few decades (Dinger et al., 2014). College counseling center directors in the United States have reported an increasing severity of students' presenting problems with the campus counseling center usage rates at record highs (Center for Collegiate Mental Health, 2017). However, there is concern about the ability of traditional campus mental health delivery systems to keep up with the demand for services. Alternative approaches that focus on crisis prevention, rather than intervention, could be useful in addressing some of these problems given the current strain on resources.

This quasi-experimental study was used to examine the *Transforming Lives Through Resilience Education,* an online life coaching curriculum developed by Steinhardt and Dolbier (2008) as a primary prevention strategy. Student participants who received this 4-week intervention course online did make statistically significant improvement in coping skills as measured by the WOC Questionnaire; however, the comparative group study participants made progress as well. Coping skills enhancement programs could be more effective for undergraduate students if they are delivered as early as possible in their transition to college.

References

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., ... & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation Science*, *7*(1), 32–41.

Abbott, J. M., Klein, B., & Ciechomski, L. (2008). Best practices in online therapy. *Journal of Technology in Human Services, 26*(2-4), 360–375. doi:10.1080/15228830802097257

Ammentorp, J., Uhrenfeldt, L., Angel, F., Ehrensvärd, M., Carlsen, E. B., & Kofoed, P. E. (2013). Can life coaching improve health outcomes? A systematic review of intervention studies. *BMC Health Services Research*, *13*(1), 428–440. doi:10.1186/1472-6963-13-428

Anastopoulos, A. D., & King, K. A. (2015). A cognitive-behavior therapy and mentoring program for college students with ADHD. *Cognitive and Behavioral Practice*, *22*(2), 141–151.

Andersson, G., & Titov, N. (2014). Advantages and limitations of Internet-based interventions for common mental disorders. *World Psychiatry, 13*(1), 4–11. doi:10.1002/wps.20083

Andersson, G., Cuijpers, P., Carlbring, P., Riper, H, & Hedman, E. (2014). Guided internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: A systematic review and meta-analysis. *World Psychiatry, 13*(3), 288–295. doi: 10.1002/wps.20151

Aradilla, A., Tomas, J., & Gomez, J. (2014), Associations between emotional intelligence, depression and suicide risk in nursing students. *Nurse Education Today*, *34*(4), 520–525. doi:10.1016/j.nedt.2013.07.001

Association for University and College Counseling Center Directors (2016). *AUCCCD Annual Survey 2016*. Retrieved from https://www.aucccd.org/assets/documents/ aucccd%202016%20monograph%20-%20public.pdf

Badra, M. (2014). *College students' attitudes and perception of the therapeutic competence of counselors and other mental health professionals* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 1667769158).

Barr, B. (2014). *Identifying and addressing the mental health needs of online students in higher education*. Retrieved from ERIC database. (EJ1036730)

Bellodi, P. L., Chebabo, R., Abensur, S. I., & Martins, M. D. (2011). Mentoring: To attend or not to attend, that is the question: A qualitative study. *SciELO Analytics*.

Benjamin, T. J. (2005). *An assessment of mental health counseling services provided by Florida public community colleges and universities* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 305363814).

Bettis, A. H., Coiro, M. J., England, J., Murphy, L. K., Zelkowitz, R. L., Dejardins, L., ... & Compas, B. E. (2017). Comparison of two approaches to prevention of mental health problems in college students: enhancing coping and executive function skills. *Journal of American college health*, *65*(5), 313–322.

Bonneville-Roussy, A., Evans, P., Verner-Filion, J., Vallerand, R. J., & Bouffard, T. (2017). Motivation and coping with the stress of assessment: Gender differences in outcomes for university students. *Contemporary Educational Psychology*, *48*, 28–42.

Branden, N. (1994). *The six pillars of self-esteem*. New York, NY: Bantam Books.

Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education*, *3*(2), 37–43.

Brunner, J. L., Wallace, D. L., Reymann, L. S., Sellers, J. J., & McCabe, A. G. (2014). College

counseling today: Contemporary students and how counseling centers meet their needs.

Journal of College Student Psychotherapy, 28(4), 257–324.

Calhoun, L. G., & Tedeschi, R. G. (Eds.). (2014). *Handbook of posttraumatic growth: Research*

and practice. New York, NY: Routledge.

Campbell, D. T., & Stanley, J. C. (2015). *Experimental and quasi-experimental designs for*

research. New York, NY: Ravenio Books.

Campbell, D. T., & Stanley, J.C. (2011). *Experimental and quasi-experimental designs for*

research. Belmont, CA: Wadsworth Publishing.

Carver, C. S. (1997). You want to measure coping, but your protocol is too long: Consider the

brief cope. *International Journal of Behavioral Medicine*, *4*(1), 92–98.

Cavanagh, K., Seccombe, N., & Lidbetter, N. (2011). The implementation of computerized

cognitive behavioral therapies in a service user-led, third sector self-help clinic.

Behavioural & Cognitive Psychotherapy, 39(4), 427–442.

doi:10.1017/S1352465810000858

Center for Collegiate Mental Health. (2017). *2016 Annual Report (Publication No. STA 17-74)*.

State College, PA: Pennsylvania State University. Retrieved from https://sites.psu.

edu/ccmh/files/2017/01/2016-Annual-Report-FINAL_2016_01_09-1gc2hj6.pdf

Center for School Mental Health. (2011, July). *Issue brief: Supporting mental health needs of*

community college students. Retrieved from http://csmh.umaryland.edu/media/

SOM/Microsites/CSMH/docs/Resources/Briefs/CCIssueBrief.pdf

Centers for Disease Control and Prevention (2017). *The Adverse Childhood Experiences (ACE)*

study. Atlanta, GA: Centers for Disease Control and Prevention, National Center for

Injury Prevention and Control, Division of Violence Prevention. Retrieved from

https://www.cdc.gov/violenceprevention/acestudy/about.html

Clement, S., Schauman, O., Graham, T., & Maggioni, F. (2014). What is the impact of mental

health-related stigma on help seeking? A systematic review of quantitative and

qualitative studies. *Psychological Medicine*, *45*(1), 23–63.

doi:10.1017/S0033291714000129

Collett, K. (2008). *A case study on the effectiveness of telephone coaching. Work-Based*

Research Project. Middlesex, UK: I-Coach Academy & Middlesex University.

Retrieved from http://www.icoachacademy.com/media/research/A%20case%

20study%20on%20the%20effectiveness%20of%20telephone%20coaching.pdf

Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design & analysis issues in*

field settings. Boston, MA: Houghton Mifflin.

Covey, S. R. (1989). *The 7 habits of highly effective people*. New York, NY: Simon & Schuster.

Cukor, D. (2013). Psychosocial intervention improves depression, quality of life, and fluid

adherence in hemodialysis. *Journal of the American Society of Nephrology*, *25*(1), 196–

206. doi:10.1681/ASN.2012111134

Dawson, D. A., Grant, B. F., Stinson, F. S., & Chou, P. S. (2004). Another look at heavy

episodic drinking and alcohol use disorders among college and noncollege youth. *Journal*

of Studies on Alcohol, *65*(4), 477–488.

Deckro, G. R., Ballinger, K. M., Hoyt, M., Wilcher, M., Dusek, J., Myers, P. … Benson, H.

(2002). The evaluation of a mind/body intervention to reduce psychological distress and

perceived stress in college students. *Journal of American College Health, 50*(6), 281–

287.

Dinger, M. K., Brittain, D. R., & Hutchinson, S. R. (2014). Associations between physical
activity and health-related factors in a national sample of college students. *Journal of
American College Health, 62*(1), 67–74.

Doumas, D. M., Turrisi, R., Coll, K. M., & Haralson, K. (2007). High-risk drinking in college
athletes and non-athletes across the academic year. *Journal of College Counseling*, *10*,
163–174.

Downs, M. F., & Eisenberg, D. (2012). Help seeking and treatment use among suicidal college
students. *Journal of American College Health*, *60*(2), 104–114.

Dziegielewski, S. F., Roest-Marti, S., & Turnage, B. (2004). Addressing stress with social work
students: A controlled evaluation. *Journal of Social Work Education, 40*(1), 105–119.

Eisen, A., Kushner, H., McLeod, M., Queen, E., Gordon, J., & Ford, J. L. (2009). An integrated
approach to addressing addiction and depression in college students. *Journal of American
College Health*, *57*(4), 455–456.

Elliot, C. (2010). *Physical activity and mental health among undergraduate students*. (Doctoral
dissertation). Retrieved from
http://search.proquest.com.cupdx.idm.oclc.org/docview/757376152?accountid=10248

Ellis, A. (2001). *Overcoming destructive beliefs, feelings, and behaviors: New directions for
rational emotive behavior therapy*. New York, NY: Prometheus Books.

Falk, E. (2015). Self-affirmation alters the brain's response to health messages and subsequent
behavior change. *Proceedings of the National Academy of Sciences of the United States
of America, 112*(7), 1977–1982. doi:10.1073/pnas.1500247112

Farrand, P., Confue, P., Byng, R., & Shaw, S. (2009). Guided self-help supported by
paraprofessional mental health workers: an uncontrolled before–after cohort study.

Health & Social Care in the Community, 17(1), 9–17. doi:10.1111/j.1365-2524.2008.00792x

Farrer, L., Batterham, P., Bennett, K., Calear, A., Chan, J., Griffiths, K., . . . Tait, R. (2013). Technology-based interventions for mental health in tertiary students: Systematic review. *Journal of Medical Internet Research*, *15*(5), 1–14. doi:10.2196/jmir.2639

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191.

Fazel, M., Hoagwood, K., Stephan, S., & Ford, J. (2014). Mental health interventions in schools in high-income countries. *The Lancet Psychiatry*, *1*(5), 377–387. doi:10.1016/S2215-0366(14)70312-8

Folkman, S., & Lazarus, R. (1988). *Manual for the ways of coping questionnaire*. Palo Alto, CA: Consulting Psychologists Press.

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*(1), 150–170.

Folkman, S., & Lazarus, R. S. (1990). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*(3), 219–239.

Futo, J. (2011). Dealing with mental health issues on campus starts with early recognition and intervention. *Campus Law Enforcement Journal, 41*(3), 22–23.

Gaffney, D. (2016). *It cuts both ways: Supporting the success of college students with mental health challenges. A grounded theory analysis* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 1797416221).

Gega, L., Smith, J., & Reynolds, S. (2013). Cognitive behavior therapy (CBT) for depression by

   computer vs. therapist: Patient experiences and therapeutic processes. *Psychotherapy*

   Research, 23(2), 218–231. doi:10.1080/10503307.2013.766941

Geisner, I. M., Neighbors, C., & Larimer, M. E. (2006). A randomized clinical trial of a brief

   mailed intervention for symptoms of depression. *Journal of Consulting and Clinical*

   Psychology, 74(2), 393–399.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-

   statisticians. *International Journal of Endocrinology and Metabolism*, *10*(2), 486–493.

Gittelman, S., Lange, V., Cook, W. A., Frede, S. M., Lavrakas, P. J., Pierce, C., & Thomas, R. K.

   (2015). Accounting for social-desirability bias in survey sampling. *Journal of Advertising*

   Research, *55*(3), 242–254.

Gress-Smith, J. L., Roubinov, D. S., Andreotti, C., Compas, B. E., & Luecken, L. J. (2015).

   Prevalence, severity and risk factors for depressive symptoms and insomnia in college

   undergraduates. *Stress and Health*, *31*(1), 63–70.

Hadjistavropoulos, H. D., Pugh, N. E., Nugent, M. M., Hesser, H., Andersson, G., Ivanov, M., …

   Austin, D. W. (2014). Therapist-assisted internet-delivered cognitive behavior therapy for

   depression and anxiety: Translating evidence into clinical practice. *Journal of Anxiety*

   Disorders, 28(8), 884–893. doi:10.1016/j.janxdis.2014.09.018

Harris-Caldwell, J. (2015). *The need for identifying mental health behaviors to prevent violence*

   among community college students (Doctoral dissertation). Available from ProQuest

   Dissertations & Theses Global. (UMI No. 1727125936).

Hedman, E., Ljótsson, B., & Lindefors, N. (2012). Cognitive behavior therapy via the internet: A

systematic review of applications, clinical efficacy and cost-effectiveness. *Expert Review*

of Pharmacoeconomic Outcomes Research, 12(6), 745–764. doi:10.1586/erp.12.67

Hershner, S., & Chervin, R. (2014). Causes and consequences of sleepiness among college

students. *Nature and Science of Sleep*, *6*, 73–84. http://dx.doi.org/10.2147/nss.s62907

Hunt, J. B., Watkins, D., & Eisenberg, D. (2012). How do college campuses make decisions

about allocating resources for student mental health? Findings from key participant

interviews. *Journal of College Student Development*, *53*(6), 850–856.

IBM Corporation (2012). *IBM SPSS Statistics for Windows, Version 21.0*. Armonk, NY: IBM

Corp.

Ibrahim, R. M., Ghani, M. A., & Embat, A. M. M. S. (2013). Organizational citizenship behavior

among local government employees in East Coast Malaysia: A pilot study. *International*

Business Research, *6*(6), 83–94. doi:10.5539/ibr.v6n6p83

Iydroose, M. (2012). *Correlates of mental health help seeking behavior among college students*

(Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI

No. 1025785881). Retrieved from

http://search.proquest.com.cupdx.idm.oclc.org/docview/1025785881?accountid=10248

Kazdin, A. E. (2011). *Single-case research designs: Methods for clinical and applied settings*.

Oxford, UK: Oxford University Press.

Kenzig, M. (2013). *Health status during college students' transition to adulthood: Health*

behaviors, negative experiences, and the mediating effects of personal development

(Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI

No. 1526491721). Retrieved from

http://search.proquest.com.cupdx.idm.oclc.org/docview/1526491721?accountid=10248

Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustun, T. B. (2007).

Age of onset of mental disorders: a review of recent literature. *Current Opinion in Psychiatry*, *20*(4), 359–364.

King, C. A., Eisenberg, D., Zheng, K., Czyz, E., Kramer, A., Horwitz, A., & Chermack, S. (2015). Online suicide risk screening and intervention with college students: A pilot randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *83*(3), 630–649.

Kruisselbrink, A. (2013). A suffering generation: Six factors contributing to the mental health crisis in North American higher education. *College Quarterly*, *16*(1), 25–69.

Lam, P. C., Ng, P., Pan, J., & Young, D. K. (2015). Ways of coping of Chinese caregivers for family members with schizophrenia in two metropolitan cities: Guangzhou and Hong Kong, China. *International Journal of Social Psychiatry, 61*(6), 591–599.

Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health Promotion Practice*, *16*(4), 473–475.

Lillevoll, K. R., Wilhelmsen, M., Kolstrup, N., Høifødt, R. S., Waterloo, K., Eisemann, M., & Risør, M. B. (2013). Patients' experiences of helpfulness in guided internet-based treatment for depression: Qualitative study of integrated therapeutic dimensions. *Journal of Medical Internet Research, 15*(6), 1–12. doi:10.2196/jmir.2531

Lipson, S. K., Speer, N., Brunwasser, S., Hahn, E., & Eisenberg, D. (2014). Gatekeeper training and access to mental health care at universities and colleges. *The Journal of Adolescent Health*, *55*(5), 612–619. doi.org/10.1016/j.jadohealth.2014.05.009

Mahmoud, J. S., Staten, R. T., Lennie, T. A., & Hall, L. A. (2015). The relationships of coping, negative thinking, life satisfaction, social support, and selected demographics with anxiety of young adult college students. *Journal of Child and Adolescent Psychiatric Nursing*, *28*(2), 97–108.

Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results*. San Francisco, CA: Jossey-Bass.

Mason, M. J., Zaharakis, N., & Benotsch, E. G. (2014). Social networks, substance use, and mental health in college students. *Journal of American College Health*, *62*(7), 470–477. Retrieved from http://search.proquest.com.cupdx.idm.oclc.org/docview/1651864636?accountid=10248

McDermott, J. S. (2008). *Explicating global wellbeing in college students using health risk behaviors and adjustment to college* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 304538327).

Mersky, J. P., Topitzes, J., & Reynolds, A. J. (2013). Impacts of adverse childhood experiences on health, mental health, and substance use in early adulthood: A cohort study of an urban, minority sample in the US. *Child Abuse & Neglect*, *37*(11), 917–925.

Mohr, D. C., Cuijpers, P., & Lehman, K. (2011). Supportive accountability: A model for providing human support to enhance adherence to eHealth interventions. *Journal of Medical Internet Research, 13*(1), 1–11. doi:10.2196/jmir.1602

Nelson, C. A. (2017). Hazards to early development: The biological embedding of early life adversity. *Neuron*, *96*(2), 262–266.

Newby, J. M., Mackenzie, A., Williams, A. D., McIntyre, K., Watts, S., Wong, N., & Andrews, G. (2013). Internet cognitive behavioral therapy for mixed anxiety and depression: A

randomized controlled trial and evidence of effectiveness in primary care. *Psychological*

Medicine, 43(12), 2635–2648. doi:10.1017/S0033291713000111

Newnham-Kanas, C., Gorezynski P., Morrow, D., & Irwin J. D. (2009). Annotated bibliography

of life-coaching and health research. *International Journal of Evidence Based Coaching*

Mentoring, *7*(1), 39–103.

Nils. P. (2015). Making sense of implementation theories, models and frameworks.

Implementation Science, 10(53) 55–67.

Novotney, A. (2014). Students under pressure. *Monitor on Psychology, 45*(8), 36–40.

O'Hara, R. E., Armeli, S., Boynton, M. H., & Tennen, H. (2014). Emotional stress-reactivity and

positive affect among college students: The role of depression history. *Emotion*, *14*(1),

193–203.

O'Leary, V. E., & Ickovics, J. R. (1995). Resilience and thriving in response to challenge: An

opportunity for a paradigm shift in women's health. *Women's Health, 1*(2), 121–142.

Ong-Dean, C., Hofstetter, C. H., & Strick, B. R. (2011). Challenges and dilemmas in

implementing random assignment in educational research. *American Journal of*

Evaluation, 32(1), 29–49.

doi:http://dx.doi.org.cupdx.idm.oclc.org/10.1177/1098214010376532

Ornish, D. (1997). *Love and survival: The scientific basis for the healing power of intimacy*.

New York, NY: Harper Collins.

Payne, H. (2015). Behavioral functionality of mobile apps in health interventions: A systematic

review of the literature. *JMIR Health*, *3*(1), 20–36. doi:10.2196/mhealth.3335

Pecka, W. J. (2011). *Students with mental health issues in higher education: A survey of*

prevalence and fall-to-spring persistence rates in a community college environment

(Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 913576174).

Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry: The Journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, *39*(5), 503–511. doi:10.1007/s40596-014-0205-9

Peery, T. S., & Veneruso, S. S. (2011). Balancing act: Managing instructor presence and workload when creating an interactive community of learners. *Online Classroom, 3*(8), 29–38.

Prevatt, F. (2016). Coaching for college students with ADHD. *Current Psychiatry Reports*, *18*(12), 110.

Prince, J. P. (2015). University student counseling and mental health in the United States: Trends and challenges. *Mental Health & Prevention, 3*(1-2), 5–10.

Reynolds, J., Griffiths, K. M., Cunningham, J. A., Bennett, K., & Bennett, A. (2015). Clinical practice models for the use of e-mental health resources in primary health care by health professionals and peer workers: a conceptual framework. *JMIR Mental Health, 2*(1), e6.

Rickinson, B. (1997). Evaluating the effectiveness of counseling intervention with final year undergraduates. *Counseling Psychology Quarterly, 10*, 271–285.

Roxon, N., Macklin, J., & Butler, M. (2011). *National mental health reform: Ministerial statement 2011*. Retrieved from http://www.budget.gov.au/201112/content/ ministerial_statements/health/download/ms_health.pdf

Sallis, J. F., Owen, N., & Fisher, E. (2015). Ecological models of health behavior. *Health Behavior: Theory, Research, and Practice*, *5*(2), 43–64.

Sancrant, L. M. (2014). *Help is on the way! Enlisting faculty and staff support for students with mental illness* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 1626021433).

Saunders, J. A., Morrow-Howell, N., Spitznagel, E., Doré, P., Proctor, E. K., & Pescarino, R. (2006). Imputing missing data: A comparison of methods for social work researchers. *Social Work Research*, *30*(1), 19–31.

Saunders, J., Jobber, D., Mitchell, V. (2006). The optimum prepaid monetary incentives for mail surveys. *Journal of the Operational Research Society. 57*(10), 1224–1230.

Schwartz, L. J., & Friedman, H. A. (2009). College student suicide. *Journal of College Student Psychotherapy*, *23*(2), 78–102. Retrieved from http://search.proquest.com.cupdx.idm.oclc.org/docview/61834712?accountid=10248

Schwartz, R. C. (1995). *Internal family systems therapy*. New York, NY: Guilford Press.

Schwitzer, A. M. (2016). Positive psychology on the college campus. *Journal of College Student Development, 57*(5), 620–622.

Sexton, B. J., Franke, A., Leonard, L., & Adair, K. (2017). *SCORE: Assessment of your work setting safety, communication, operational reliability, and engagement*. Retrieved from http://www.dukepatientsafetycenter.com/doc/SCORE_Techincal_Report_5.22.17.pdf

Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine, 21*, 581–599.

Shapiro, S. S., & Wilk, M. B. (1972). An analysis of variance test for the exponential distribution (complete samples). *Technometrics*, *14*(2), 355–370.

Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 ed.).

    Seattle, WA: Dissertation Success, LLC.

Slavin, S., Schindler, D., & Chibnall, J. (2014). Medical student mental health 3.0: Improving

    student wellness through curricular changes. *Academic Medicine*, *89*(4), 573–577.

    doi:10.1097/ACM.0000000000000166

Smith, M., Finneran, J., & Droppa, M. (2014). High risk drinking among non-affiliated college

    students. *Journal of Alcohol and Drug Education*, *58*(1), 28–43. Retrieved from

    http://cupdx.idm.oclc.org/login?url=http://search.proquest.com.cupdx.idm.oclc.org/docvi

    ew/1651856535?accountid=1024

Smyth, K., & Yarandi, H. N. (1996). Factor analysis of the ways of coping questionnaire for

    African American women. *Nursing Research, 45*(1), 25–29.

Song, Y., & Lindquist, R. (2015). Effects of mindfulness-based stress reduction on depression,

    anxiety, stress, and mindfulness in Korean nursing students. *Nurse Education Today*,

    35(1), 86–90. doi:10.1016/j.nedt.2014.06.010

Spence, S. H., Donovan, C. L., March, S., Gamble, A., Anderson, R. E., Prosser, S., & Kenardy,

    J. (2011). A randomized controlled trial of online versus clinic-based CBT for adolescent

    anxiety. *Journal of Consulting and Clinical Psychology, 79*(5), 629–642.

    doi:10.1037/a0024512.

Steinhardt, M., & Dolbier, C. (2008). Evaluation of a resilience intervention to enhance coping

    strategies and protective factors and decrease symptomatology. *Journal of American*

    College Health, 56(4), 445–453.

Sterba, A. M. (2008). *The relationship of sleep and exercise to salient indicators of college student emotional well-being*. (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI 1773221528).

Stober, D. R., & Grant, A. G. (2006). *Evidence based coaching.* Princeton, NJ: John Wiley & Sons, Inc.

Stott, R., Wild, J., Grey, N., Liness, S., Warnock-Parkes, E., Commins, S., … Clark, D. M. (2013). Internet-delivered cognitive therapy for social anxiety disorder: A development pilot series. *Behavioural & Cognitive Psychotherapy, 41*(4), 383–397. doi:10.1017/S1352465813000404

Szabo, L. (2014, June 25). Cost of not caring: Nowhere to go. *USA Today*. Retrieved from https://www. usatoday.com/story/news/nation/2014/05/12/mental-health-system-crisis/7746535/

Tang, F., Jang, H., & Carr-Copeland, V. (2015). Challenges and resilience in African American grandparents raising grandchildren: A review of the literature with practice implications. *Grand Families: The Contemporary Journal of Research, Practice and Policy*, *2*(2), 1–48.

Theeboom, T., Beersma, B., & Van Vianen, A. E. (2016). The differential effects of solution-focused and problem-focused coaching questions on the affect, attentional control and cognitive flexibility of undergraduate students experiencing study-related stress. *The Journal of Positive Psychology*, *11*(5), 460–469.

Thomas, L. Y. (2015). *Faculty on the frontline: Faculty attitudes toward mental illness in 2-year college students* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 1708212203).

Tulchinsky, T. H., & Varavikova, E. A. (2014). *The new public health* (3rd ed.). San Diego, CA: Academic Press.

Van Liew, C., Santoro, M. S., Edwards, L., Kang, J., & Cronan, T. A. (2016). *Assessing the structure of the ways of coping questionnaire in fibromyalgia patients using common factor analytic approaches*. Retrieved from https://www.researchgate.net/publication/310586047_Assessing_the_Structure_of_the_Ways_of_Coping_Questionnaire_in_Fibromyalgia_Patients_Using_Common_Factor_Analytic_Approaches

Vohs, K. D., & Baumeister, R. F. (Eds.). (2016). *Handbook of self-regulation: Research, theory, and applications*. New York, NY: Guilford Publications.

Wagner, B., Horn, A. B., & Maercker, A. (2014). Internet-based versus face-to-face cognitive behavioral intervention for depression: A randomized controlled non-inferiority trial. *Journal of Affective Disorders, 152-154*, 113–121. doi:10.1016/j.jad.2013.06.032

Waltz, J., Addis, M. E., Koerner, K., & Jacobson, N. S. (1993). Testing the integrity of a psychotherapy protocol: assessment of adherence and competence. *Journal of Consulting and Clinical Psychology*, *61*(4), 620–631.

Wang, R. (2014). Student life: Assessing mental health, academic performance, and behavioral trends of college students using smartphones. *ACML Digital Library*, *23*(2), 23–36. doi:10.1145/2632048.2632054

Watts, J. (2017). Beyond flexibility and convenience: Using the community of inquiry framework to assess the value of online graduate education in technical and professional communication. *Journal of Business and Technical Communication*, *31*(4), 481–519.

Wolever, R., Simmons, L., Sforzo, G., Dill, D., Kaye, M., & Bechard, E. (2013). A systematic review of the literature on health and wellness coaching: Defining a key behavioral

intervention in healthcare. *Global Advances in Health and Medicine*, *2*(4), 38–57.

http://dx.doi.org/10.7453/gahmj.2013.042

Wood, M. (2012). The state of mental health on college campuses. *Inquiry*, *17*(1), 5–15.

Retrieved from http://cupdx.idm.oclc.org/login?url=http://search.proquest.com.cupdx.

idm.oclc.org/docview/1037907747?accountid=10248

Wright, T. A. (2017). Seligman's positive psychology. In C. L. Cooper & J. C. Quick (Eds.), *The

handbook of stress and health: A guide to research and practice* (pp. 415–426).

Hoboken, NJ: Wiley Publications.

Yorgason, J. B., Linville, D., & Zitzman, B. (2008). Mental health among college students: Do

those who need services know about and use them? *Journal of American College Health*,

57(2), 173–182. Retrieved from http://cupdx.idm.oclc.org/login?url=http://search.

proquest.com.cupdx.idm.oclc.org/docview/61948941?accountid=10248

Zimmerman, D. W. (1997). A note on interpretation of the paired-samples t-test. *Journal of

Educational and Behavioral Statistics, 22*(3), 345–360. doi:10.3102/10769986022003349

Appendix A: Ways of Coping Questionnaire

WAYS OF COPING was designed by Lazarus and Folkman (University of California, San Francisco) as a measure of coping processes used **in a particular stressful encounter** (and not of coping style or traits).

Instructions: Identify a stressful encounter that occurred recently, where it took place and what happened. Next, read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.

Not Used	Used Somewhat	Used Quite a Bit	Used a Great Deal
0	1	2	3

_____1. Just concentrated on what I had to do next – the next step.
_____2. I tried to analyze the problem in order to understand it better.
_____3. Turned to work or substitute activity to take my mind off things.
_____4. I felt that time would make a difference – the only thing to do was to wait.
_____5. Bargained or compromised to get something positive from the situation.
_____6. I did something, which I didn't think would work, but at least I was doing something.
_____7. Tried to get the person responsible to change his or her mind.
_____8. Talked to someone to find out more about the situation.
_____9. Criticized or lectured myself.
_____10. Tried not to burn my bridges, but leave things open somewhat.
_____11. Hoped a miracle would happen.
_____12. Went along with fate; sometimes I just have bad luck.
_____13. Went on as if nothing had happened.
_____14. I tried to keep my feelings to myself.
_____15. Looked for the silver lining, so to speak; tried to look on the bright side of things.
_____16. Slept more than usual.
_____17. I expressed anger to the person(s) who caused the problem.
_____18. Accepted sympathy and understanding from someone.
_____19. I told myself things that helped me to feel better.
_____20. I was inspired to do something creative.
_____21. Tried to forget the whole thing.
_____22. I got professional help.
_____23. Changed or grew as a person in a good way.
_____24. I waited to see what would happen before doing anything.
_____25. I apologized or did something to make up.
_____26. I made a plan of action and followed it.
_____27. I accepted the next best thing to what I wanted.
_____28. I let my feelings out somehow.
_____29. Realized I brought the problem on myself.
_____30. I came out of the experience better than when I went in.
_____31. Talked to someone who could do something concrete about the problem.
_____32. Got away from it for a while; tried to rest or take a vacation.

_____33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.

_____34. Took a big chance or did something very risky.

_____35. I tried not to act too hastily or follow my first hunch.

_____36. Found new faith.

_____37. Maintained my pride and kept a stiff upper lip.

_____38. Rediscovered what is important in life.

_____39. Changed something so things would turn out all right.

_____40. Avoided being with people in general.

_____41. Didn't let it get to me; refused to think too much about it.

_____42. I asked a relative or friend I respected for advice.

_____43. Kept others from knowing how bad things were.

_____44. Made light of the situation; refused to get too serious about it.

_____45. Talked to someone about how I was feeling.

_____46. Stood my ground and fought for what I wanted.

_____47. Took it out on other people.

_____48. Drew on my past experiences; I was in a similar situation before.

_____49. I knew what had to be done, so I doubled my efforts to make things work.

_____50. Refused to believe that it had happened.

_____51. I made a promise to myself that things would be different next time.

_____52. Came up with a couple of different solutions to the problem.

_____53. Accepted it, since nothing could be done.

_____54. I tried to keep my feelings from interfering with other things too much.

_____55. Wished that I could change what had happened or how I felt.

_____56. I changed something about myself.

_____57. I daydreamed or imagined a better time or place than the one I was in.

_____58. Wished that the situation would go away or somehow be over with.

_____59. Had fantasies or wishes about how things might turn out.

_____60. I prayed.

_____61. I prepared myself for the worst.

_____62. I went over in my mind what I would say or do.

_____63. I thought about how a person I admire would handle this situation and used that as a model.

_____64. I tried to see things from the other person's point of view.

_____65. I reminded myself how much worse things could be.

_____66. I jogged or exercised.

Scoring: To determine the predominant methods you used for coping, calculate your total score for each of the subscales below. Do this by summing the item scores noted for each scale.

WOC Questionnaire Scoring Key

Scale 1: Confrontive coping
_____46. Stood my ground and fought for what I wanted
_____7. Tried to get the person responsible to change his or her mind
_____17. I expressed anger to the person(s) who caused the problem
_____28. I let my feelings out somehow
_____34. Took a big chance or did something very risky
_____6. I did something which I didn't think would work, but at least I was doing something
_____Total for Scale 1

Scale 2: Distancing
_____44. Made light of the situation; refused to get too serious about it
_____13. Went on as if nothing had happened
_____41. Didn't let it get to me; refused to think too much about it
_____21. Tried to forget the whole thing
_____15. Looked for the silver lining, so to speak; tried to look on the bright side of things
_____12. Went along with fate; sometimes I just have bad luck
_____Total for Scale 2

Scale 3: Self-controlling
_____14. I tried to keep my feelings to myself
_____43. Kept others from knowing how bad things were
_____10. Tried not to burn my bridges, but leave things open somewhat
_____35. I tried not to act too hastily or follow my first hunch
_____54. I tried to keep my feelings from interfering with other things too much
_____63. I thought about how a person I admire would handle this situation and used that as a model
_____Total for Scale 3

Scale 4: Seeking social support
_____8. Talked to someone to find out more about the situation
_____31. Talked to someone who could do something concrete about the problem
_____42. I asked a relative or friend I respected for advice
_____45. Talked to someone about how I was feeling
_____18. Accepted sympathy and understanding from someone
_____22. I got professional help
_____Total for Scale 4

Scale 5: Accepting responsibility
_____9. Criticized or lectured myself
_____29. Realized I brought the problem on myself
_____51. I made a promise to myself that things would be different next time
_____25. I apologized or did something to make up
_____Total for Scale 5

Scale 6: Escape-Avoidance

_____58. Wished that the situation would go away or somehow be over with
_____11. Hoped a miracle would happen
_____59. Had fantasies or wishes about how things might turn out
_____33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication
_____40. Avoided being with people in general
_____50. Refused to believe that it had happened
_____47. Took it out on other people
_____16. Slept more than usual
_____Total for Scale 6

Scale 7: Planful problem-solving

_____49. I knew what had to be done, so I doubled my efforts to make things work
_____26. I made a plan of action and followed it
_____1. Just concentrated on what I had to do next – the next step
_____39. Changed something so things would turn out all right
_____48. Drew on my past experiences; I was in a similar situation before
_____52. Came up with a couple of different solutions to the problem
_____Total for Scale 7

Scale 8: Positive reappraisal

_____23. Changed or grew as a person in a good way
_____30. I came out of the experience better than when I went in
_____36. Found new faith
_____38. Rediscovered what is important in life
_____60. I prayed
_____56. I changed something about myself
_____20. I was inspired to do something creative
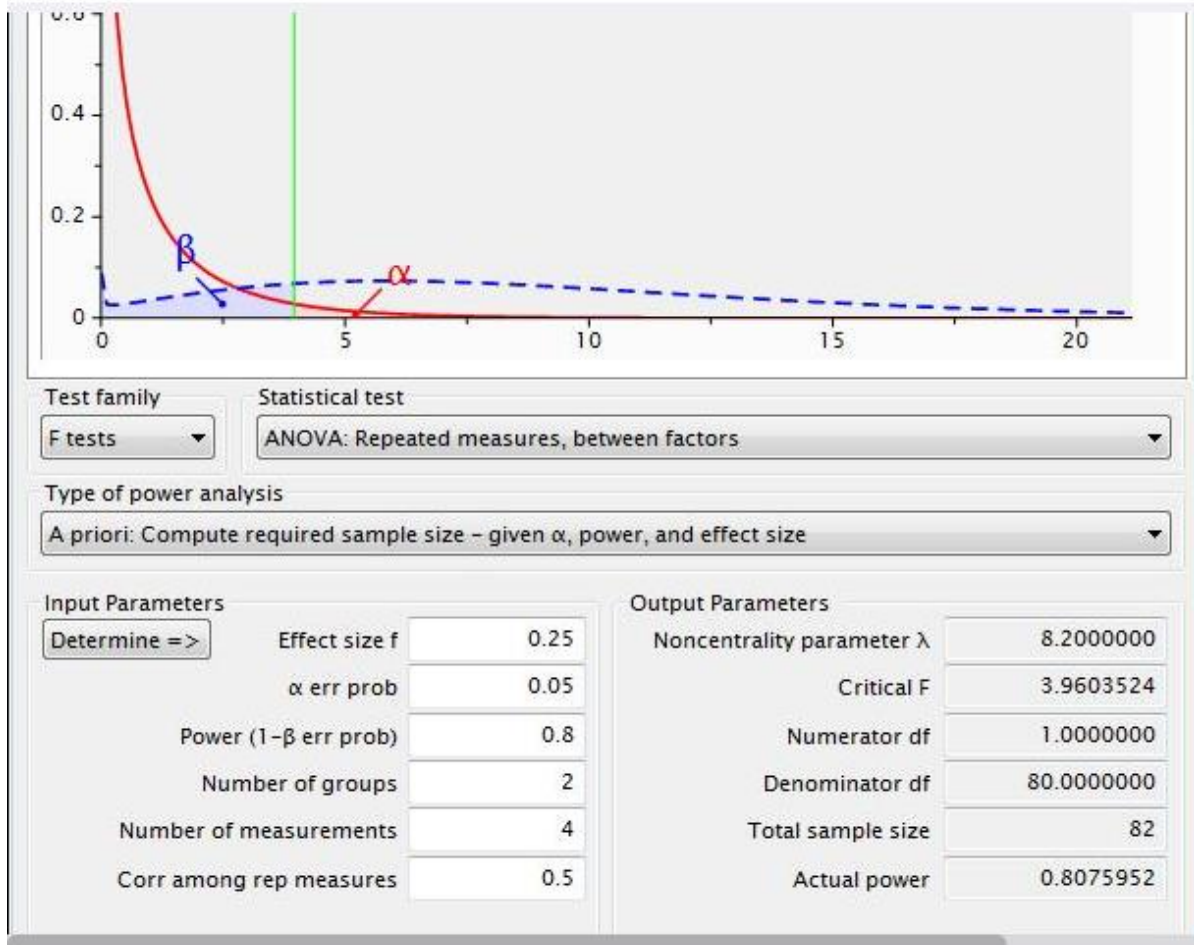_____Total for Scale 8

Appendix B: Recruitment Study Flyer

Appendix C: G-Power Screenshot

Research Study Title: The Effectiveness of Teaching Life Coaching Interventions to College Students Experiencing Altering Behaviors

Principal Investigator: Anthony Jackson

Research Institution: Concordia University; Department of Education

Faculty Advisor: Dr. Audrey Rabas

Purpose and what you will be doing:

The purpose of this study is to determine the effectiveness of teaching life coaching interventions to college students experiencing altering behaviors. We expect approximately 190 volunteers. No one will be paid to be in the study. We will begin enrollment on November 1, 2017 and end enrollment on December 15, 2017.

To be in the study, you will
(1) be asked to attend a PowerPoint presentation on the purpose of the study and the importance of completing this informed consent form
(2) read the informed consent form and to decide whether you want to participate
(3) be asked to download the free Qualtrics app on your smartphone, and will then be provided an access code to take a questionnaire which will be completed at the beginning and then again at week 8. (4) over a period of 8 weeks, participate in activities, mainly using social media, Skype, and Tango. Completing these activities should take less than 45 minutes of participation once a week for eight weeks, every Monday at 8pm-845pm for a total of 3.5 hours.

Risks:

The researcher predicts that due to the sensitivity surrounding the nature of the study, some of the discussions could possibly trigger a mild emotional response from participants in the study. To accommodate the magnitude of this type of situation, the researcher will have the contact number for the University Counseling Center protocol number [number redacted]. Before the initial start of the study, all enrolled participants will be emailed the counseling centers phone number two days before the first intervention. Any name or identifying information you give will be kept securely via electronic encryption or locked in a safe at the University. When we or our investigators look at the data, none of the data will have your name or identifying information. We will only use a disguised name to analyze the data. We will not identify you in any publication or report. Your

information will be kept private at all times and then all study documents will be destroyed 3 years after we conclude this study. It should be noted that the interventions include Skype and another video conferencing. To prevent any possible risk or exposure of the participant's information, the investigator will write all notes by hand. In addition, the video conferencing will be conducted with the investigator only.

Benefits:
Information you provide will help the University to assist students who find negotiating campus life challenging. You could benefit this by learning to manage your life with more ease and understand people who struggle managing campus life.

Confidentiality:
This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us about abuse or neglect that makes us seriously concerned for your immediate health and safety.

Right to Withdraw:
Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, we will stop asking you questions and provide you with the University counseling center's protocol number which is (number redacted). Once you call this number directly, you will be connected with one of the University's professional counselors to speak with about any concerns you are experiencing.

Cost:
The participants will not receive any compensation. Due to potential participants using their phone and social media accounts, costs may be incurred for text message charges.

Contact Information:
You will receive a copy of this consent form. If you have questions you can talk to or write the principal investigator, Anthony Jackson at email. or phone. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. Oralee Branch (email or call).

Your Statement of Consent:
I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

_____   _____

Participant Name   Date

_____   _____

Participant Signature   Date

_____   _____

Investigator Name   Date

_____   _____

Investigator Signature   Date

Investigator: Anthony Jackson email: [redacted]
c/o: Professor Dr. Audrey Rabas;
Concordia University–Portland
2811 NE Holman Street
Portland, Oregon 97221

Appendix E: Demographic Questionnaire

How many times this week have you participated in any physical activities?
What is your year of birth?

[   ]

What is the highest level of school you have completed or the highest degree you have received?

○ Less than high school degree

○ High school graduate (high school diploma or equivalent including GED)

○ Some college but no degree

○ Associate degree in college (2-year)

○ Bachelor's degree in college (4-year)

○ Master's degree

○ Doctoral degree

○ Professional degree (JD, MD)

Choose one or more races that you consider yourself to be:

☐ White   ☐ Asian

☐ Black or African American   ☐ Native Hawaiian or Pacific Islander

☐ American Indian or Alaska Native   ☐ Other [   ]

What is your sex?

○ Male

○ Female

What is your ZIP code?

[   ]

Which of the following best describes your sexual orientation?

○ Bisexual

○ Heterosexual (straight)

○ Gay or lesbian

○ Other

○ Prefer not to say

Are you now married, widowed, divorced, separated or never married?

○ Never Married

○ Widowed

○ Separated

○ Divorced

○ Married

How many people are living or staying at this address?

INCLUDE everyone who is living or staying here for more than 2 months.

INCLUDE yourself if you are living here for more than 2 months.

INCLUDE anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.

DO NOT INCLUDE anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

○ 1

○ 2

○ 3

○ 4

○ 5

○ 6

○ More than 6

Have you ever served on active duty in the US Armed Forces?

○ Yes

○ No

Are you now serving in the Armed Forces?

○ Yes

○ No

Which statement best describes your current employment status?

○ Working (paid employee)

○ Working (self-employed)

○ Not working (looking for work)

○ Not working (retired)

○ Not working (disabled)

○ Not working (temporary layoff from a job)

○ Not working (other) [   ]

○ Prefer not to answer

Which of the following industries most closely matches the one in which you are employed?

○ Arts, entertainment or recreation

○ Information

○ Construction

○ Retail trade

○ Mining

○ Finance or insurance

○ Transportation or warehousing

○ Health care or social assistance

○ Manufacturing

○ Real estate or rental and leasing

○ Accommodation or food services

○ Forestry, fishing, hunting or agriculture support

○ Educational services

○ Admin, support, waste management or remediation services

○ Management of companies or enterprises

○ Professional, scientific or technical services

○ Utilities

○ Wholesale trade

○ Unclassified establishments

○ Other services (except public administration)

How many times this week have you socialized with your friends?

Appendix F: List of Results

Shapiro Wilk (W) = .994, (p) = .883
Levene's test for homogeneity of variances (F1) = .33, p= .565 (F2) = 3.28, p = .073

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
WOC_Overall	.045	113	.200[*]	.994	113	.883

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

	Levene's Test for Equality of Variances	
	F	Sig.
Comfrontive_Coping	.518	.473
Distancing	.001	.972
Self_Controlling	.420	.518
Seeking_Social_Support	1.069	.303
Accepting_Responsibility	3.920	.050
Escape_Avoidance	.637	.426
Planful_Problem_Solving	2.873	.093
Positive_Reappraisal	.950	.332
WOC_Overall	.333	.565

Group A=Treatment group time 1 to time 2

Independent Samples Test

	Levene's Test for Equality of Variances	
	F	Sig.
Comfrontive_Coping	4.988	.028
Distancing	.285	.595
Self_Controlling	3.838	.053
Seeking_Social_Support	.704	.403
Accepting_Responsibility	1.796	.183
Escape_Avoidance	.906	.343
Planful_Problem_Solving	.032	.858
Positive_Reappraisal	6.809	.011
WOC_Overall	3.284	.073

Group B=Control group time 1 to time 2

Appendix G: Statement of Original Work

The Concordia University Doctor of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously- researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does "fraudulent" mean?

"Fraudulent" work is any material submitted for evaluation that is falsely or improperly presented as one's own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate's final work without full and complete documentation.

What is "unauthorized" assistance?

"Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another's work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*

Anthony Charles Jackson
_____

Digital Signature

Anthony Charles Jackson
_____

Name (Typed)

August 6, 2018
_____

Date