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**The Relationship Between Trauma Exposure and College Student Adjustment: Factors of
Resilience as a Mediator**

by

Amber Leih Jolley

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Old Dominion University in Partial Fulfillment of the
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OLD DOMINION UNIVERSITY

May 2017

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Abstract

The Relationship Between Trauma Exposure and College Student Adjustment: Resilience as a Mediator

Amber Jolley

Old Dominion University, 2017

Chair: Dr. Alan Schwitzer

Adjustment to college is an important developmental task for students entering institutions of higher education. More than half of students who enter college report exposure to a potentially traumatic event (PTE), with many students reporting multiple event exposure (Banyard & Cantor, 2004). Many students adjust well to college despite experiencing PTEs, suggesting that certain factors may mitigate the effects of exposure. This study utilized archival data to explore the relationship between type of PTE, accumulation of PTEs, underlying factors of resilience, and adjustment to college in a national sample of treatment seeking college students. The data were analyzed using hierarchical regression and multivariate analysis of covariance (MANCOVA). The results of the regression analyses indicated that type and accumulation of PTE were associated with increased adjustment difficulties when controlling for demographic variables. The presence of factors of resilience was predictive of lower adjustment difficulties following PTE exposure. The results of the MANCOVA analyses indicated type of PTE was predictive of levels of social support. The findings of this study may inform theories of adjustment, higher education policy and clinical practice.

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This dissertation is dedicated to my grandmother, Marlene, and my mother, Cathy.

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CHAPTER ONE

INTRODUCTION

This chapter will provide an overview of the current problem and summarize the purpose and significance of the proposed study. Further, the research questions and design, and theoretical framework will be introduced. This section will conclude with the assumptions and limitations of the study and the definitions of key terms.

Background of the Problem

College students enter institutions of higher education with a myriad of stressors, mental health concerns, resources and protective factors. Students may face many new challenges, including more rigorous academics, navigating new social structures, being away from home for the first time, and effectively handling increased independence (Belch, 2011). Entrance into college is also the time when mental health concerns may emerge or become acute (Hunt & Eisenberg, 2010). Recently, the emotional well-being of college students has become an increasing concern for institutions of higher education which has led to the increased emphasis on facilitating students' adjustment to college (Brunner, Wallace, Reymann, Sellers, & McCabe, 2014).

Adjustment to college is a multifaceted and multidimensional process (Baker & Siryk, 1984). As students navigate new roles, responsibilities, and demands, they must adapt their previously learned coping responses and acquire new skills (Baker & Siryk, 1984, Credè & Niehorster, 2011). While many students successfully navigate the transition into college, some students may be at an increased risk for impairment, particularly those living with mental health disorders. Young adulthood is a period during which mental health disorders can emerge or become acute and today's college students report more mental health concerns and higher levels

of stress than previous cohorts of students (Brunner et al., 2014; Hunt & Eisenberg, 2010). Those students who report experiencing mental health disorders such as anxiety or depression also report difficulties with academics and social integration, both of which are integral in the process of adjustment (Brunner et al., 2014; Harrar, Affsprung, & Long, 2010). College is also a transitional period for many students in which they experience relatively fast changes in multiple aspects of their lives. This transitional period, coupled with the potential emergence of mental health disorders, makes college a turning point in development for many young adults and can be a period in which students can bolster or acquire new resources (Madewell & Ponce-Garcia, 2016).

A subset of students living with mental health disorders are those who have been exposed to a potentially traumatic event (PTE). A PTE can be defined as a person's subjective response to "exposure to actual or threatened death, serious injury, or sexual violence," (*Diagnostic and Statistical Manual of Mental Disorders [DSM-5]*, 5th ed, APA, 2013, p. 271). A PTE can occur through direct experience, witnessing the event in person, learning it has occurred to a loved one, or repeated exposure to details of the event. Examples of PTEs include, but are not limited to, physical, emotional, or sexual abuse in childhood, sexual assault, physical assault, being diagnosed with a life-threatening illness, witnessing violence, or car accidents.

Approximately one-third of young adults age 18-24 are in college and students in this age range are at an increased risk for exposure to PTEs (Anders, Frazier, & Shallcross, 2012, 2014; Edwards, Catling, & Parry, 2016). Rates of event exposure in college students range from 50-85% (Anders et al., 2014; Banyard & Cantor, 2004; Boyraz, Horne, Armstrong, & Owens, 2015; Frazier et al., 2009; Read, Ouimette, White, Colder, & Farrow, 2011).

Exposure to PTEs places students at an increased risk for difficulties upon entrance into college (Anders et al., 2012, Banyard & Cantor, 2004). Previous studies have indicated that exposure to PTEs and associated post-traumatic stress disorder (PTSD) symptomatology is associated with difficulties in academic achievement and college persistence (Anders et al., 2012; Banyard & Cantor, 2004). Trauma exposure and PTSD symptomatology is also associated with senior year enrollment in college (Boyratz et al, 2013). Exposure to PTEs also has long-term health implications. Individuals who report PTE exposure in childhood and adolescence report more mental and physical health problems in later adulthood (Anda et al. 2006; Goldberg, 2016).

Previous research has also indicated that certain types of PTEs and exposure to multiple PTEs may have differential impacts on adjustment. Interpersonal forms of PTEs (i.e. physical assault, robbery, sexual assault) are consistently rated as more severe by individuals than non-interpersonal forms of PTEs (i.e. car accidents, death of a loved one) and thus, are more predictive of adjustment difficulties (Banyard & Cantor, 2004; Boyraz et al., 2015; Read et al., 2012). Further, exposure to multiple PTEs may have more deleterious impacts on adjustment than single event exposure (Arata, Langhinrichsen-Rohling, Bowers, & O’Farrill-Swails, 2005; Banyard & Cantor, 2004; Elliott et al., 2009). Lastly, certain demographic variables including gender, ethnocultural identity, and socioeconomic status (SES), may be predictive of the type and accumulation of PTEs (Banyard & Cantor, 2004).

Although more than half of college students report exposure to PTEs, only 6% to 12% of undergraduate students report symptoms of PTSD (Anders et al., 2012; Read et al., 2009). While still a significant sample of college students, these numbers suggest that many students adjust well despite PTE exposure. This concept of positive adaptation in the face of stress or trauma is called resilience (Masten, 2001). Individuals who are deemed resilient often possess and utilize a

combination of factors to mitigate the effects of PTEs (Banyard & Cantor, 2004). Such factors include: high levels of familial and peer support, religion and spirituality, and positive connections to the surrounding campus environment (Banyard & Cantor, 2004; Grasso et al., 2012; Pascarella & Terenzini, 1995; Tinto, 1987, 1993).

Statement of the Problem

Exposure to PTEs places students at an increased risk for social, academic, and personal-emotional difficulties upon entrance into college (Baker et al., 2016; Boyraz et al., 2015, 2013). Much of the current literature focuses on maladaptive symptoms associated with PTE exposure, to the detriment of the large number of students who adjust well despite PTE exposure (Anders et al., 2012; Banyard & Cantor, 2004; Read et al., 2011). Previous studies have also indicated that interpersonal forms of PTEs and the reporting of multiple PTEs are consistently predictive of adjustment difficulties. However, few studies have investigated the impact of accumulation and type of PTE on adjustment in relation to resilience.

While the negative impacts of PTE exposure in young adulthood has been well-researched, factors of resilience as they relate to this unique time period have not been well-established (Kalmakis & Chandler, 2015; Madewell & Ponce-Garcia, 2016; Nurius, Green, Logan-Greene, & Borja, 2015). Research on resilience indicates that transitional periods, such as entrance into college are potential turning points in development, especially within the context of risk, because the likelihood of either a positive or negative developmental outcome is high (Madewell & Ponce-Garcia, 2016; Read et al., 2011). These outcomes are based on the presence of resilience factors, adaptive coping skills, and cognitive flexibility (Madewell & Ponce-Garcia, 2016). Considering that this transitional period is also when mental health disorders tend to emerge or become acute (Belch, 2011), it is important to study factors of resilience to increase

the understanding of experiences, environments, and traits that can insulate the development or exacerbation of mental health concerns following PTE exposure.

Further, most studies investigate the effects of lifetime exposure to PTE rather than researching event exposure at college, which may have differential impacts on factors of resilience and student adjustment (Anders et al., 2014; Frazier et al., 2011). Additionally, most studies were conducted on samples of primarily European American women and many studies faced generalizability issues due to them being conducted on one college campus.

Given the high percentage of students who report PTEs (66-80%) and the growing number of students who report mental health concerns, it is important to assess and examine the factors that may contribute to the variation in responses to PTEs, especially within college students who already face increased levels of stress due to adjusting to a new environment (Brunner et al., 2014). Factors such as peer support, familial support, campus engagement, religious and spiritual engagement, and the severity of the PTE may contribute to resilient trajectories following PTE exposure.

As this background of the problem suggests, more research is warranted on factors of resilience as they relate to trauma exposure in college students, especially those factors that are unique to college students. The research indicates that exposure to PTEs place students at an increased risk for adjustment concerns and that certain factors mitigate these risks. However, the manners in which risk and protective interact to facilitate resilient trajectories in college students are unclear.

Purpose of Study

The purpose of this study is to investigate the relationship between exposure to PTEs, factors of resilience, and adjustment in a national sample of treatment-seeking college students.

This study attempted to add to the existing body of literature by differentiating between the impact of differing types and accumulations of trauma. The aim of this study was to highlight the underlying resilient traits and trajectories that many college students already possess while controlling for key demographic variables including gender, race/ethnicity, previous counseling experience, and financial distress. This study investigated the impact of the recency of the event and its impact on student adjustment.

Significance of the study

This proposed research study has implications for both college counseling research and research in higher education. Given the percentage of students who report PTEs and with the increased focus on sexual assault on college campuses, research on promoting resilience both in counseling and in education are necessary. Research on resilience and post-traumatic outcomes is growing; however, the research in the college literature continues to focus on maladaptive coping mechanisms.

This contribution to the body of literature can help instigate a shift in the way researchers approach trauma exposure in college students. Rather than focusing on deficits, researchers can focus on the large subset of the population that displays factors associated with resilience with the goal of promoting resilience in other college student populations as well. Furthermore, this research can potentially impact the ways in which research with college students are conducted. Research on college students has long been conducted using convenience samples; however, more careful attention can be paid to the unique developmental phase college student are in (Read et al., 2011).

Research Questions and Hypotheses

The primary goal of this study was to explore the relationship between exposure to potentially traumatic events, resilience factors, and adjustment to college. The following are the selected research questions:

Question One

What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis One

Type of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Two

What is the relationship between type and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis Two

Type and accumulation of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Three

To what extent do recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation of events?

Hypothesis Three

There will be significant differences in college student adjustment and resiliency factors ($p < .05$) based on type of event and recency of event when controlling for accumulation of events.

Research Design

This research study utilized an ex-post facto research design to examine archival data that were collected from 49 college counseling centers across a two-year span. The data included multiple demographic variables including age, gender, ethnocultural identity, socioeconomic status, assessment of peer and familial support, assessment of religion/spirituality, exposure to potentially traumatic events and scores for the college-counseling assessment of psychological symptoms (CCAPS). Hierarchical regression and multivariate analysis of variance were used to analyze the data.

Theoretical Framework

This study utilized the diathesis-stress model as a theoretical framework. The diathesis-stress model provides a structure for conceptualizing why some people are more susceptible to developing mental health disorders over others. This model may be useful in understanding resilient trajectories as it assumes that psychological distress arises when individuals with predispositions (i.e. diatheses) are triggered by significant stressors while also considering interactions between an individual and her or his environment (Sigelman and Rider, 2009).

A diathesis may be biological, such as a genetic predisposition, psychological, such as a cognitive vulnerability to certain reactions, situational, such as growing up in poverty, or personality characteristics (Sigelman and Rider, 2009). Stress factors are typically social factors that disrupt an individual's equilibrium. Such factors may be acute, such as exposure to a PTE, or the death of a family member, or they may be chronic, such as ongoing abuse or long-term illness. While much of this model focuses on objective and observable factors, it is also

important to consider an individual's subjective perceptions to life events and stressors. Further, although not an inherent component of the model, it is important to consider the role of protective factors, including social support and individual social and emotional development that influence the interaction between diathesis and stress (Masten, 2001).

Assumptions and Limitations

This study was based on several assumptions. Since the researcher utilized an archival data set, it was assumed that all data were collected and distributed in an ethical manner. Further it was assumed that data from contributing institutions are an accurate representation of treatment seeking college students. In addition to these assumptions, this study also has limitations. This study utilized an archival data set of treatment seeking individuals, thus generalizability to all college student may be an issue. Selection was also a limitation of the sample as student with differing levels of adjustment may not make it college or may not seek out services. Further, response rate is a limitation of the sample as different counseling centers may assess for different demographic variables and some clients may not opt to disclose this information in the intake paperwork (Cresswell, 2015). This study utilized an ex post facto research design, and thus, causation cannot be determined due to the researcher's inability to manipulate variables that may influence study outcomes (Cresswell, 2015). Lastly, social desirability is a possibility with survey questions (CCMH, 2015).

Study Specific Terms and Definitions

Academic adjustment: a student's ability to adapt to academic demands (Baker & Siryk, 1984; Credé & Niehorster, 2011). This goes beyond grade point average (GPA) and reflects students' attitudes towards their academic work and goals, their engagement with the academic material, and the results of their studying and academic efforts.

Social adjustment: students' social integration on campus including participating in extracurricular activities and their engagement in and satisfaction with new interpersonal relationships.

Personal-emotional adjustment: the physical and psychological reactions to the new demands of the environment. This is the degree to which students experience stress, anxiety, depression, or physical symptoms (e.g. sleeplessness or loss of appetite).

Adjustment: the degree to which students adapt to college across different domains: academic, personal emotional, and social (Baker & Siryk, 1984).

Potentially Traumatic Event: a person's subjective response to "exposure to actual or threatened death, serious injury, or sexual violence," (*Diagnostic and Statistical Manual of Mental Disorders [DSM-5]*, 5th ed, APA, 2013, p. 271) through direct experience, witnessing the event in person, learning it has occurred to a loved one, or repeated exposure to details of the event.

Interpersonal PTE: types of PTEs in which the event is caused by the direct action of another person such as sexual assault, physical and emotional abuse, assault, mugging, imprisonment, or torture (Duncan, 2000; Goldberg, 2016)

Non-Interpersonal PTE: type of PTE in which event is not directly caused by the actions of another person such as life threatening illness, accidental injury, death of a loved one, or natural disaster (Hetzl-Riggin & Roby, 2013; Krupnick et al., 2004)

Accumulation of PTEs: the experiencing and reporting of multiple event exposures across one's lifetime (Kilpatrick et al., 2013)

Recency of PTEs: the amount of time that has passed since PTE exposure. For this study, recency is defined as whether the event occurred during college

Gender: participants indicate male, female, transgender, or other, with the option to self-identify

Race/Ethnicity: The racial or cultural group(s) an individual identifies with

Financial distress: an individual's perceived level of stress regarding finances (CCMH, 2012)

Resilience: a developmental process or trajectory in which an individual utilizes personal and environmental resources to negotiate, adapt to, or manage significant stress or trauma (Windle, 2011)

Peer support: an individual's rating of perceived emotional support from peers

Familial support: an individual's rating of perceived emotional support from family

College Engagement: Factors unique to college settings that may also assist in facilitating the process of resilience in undergraduate students, specifically, engagement on campus, or active involvement in both academic and extracurricular activities (Tinto, 2006)

Religious engagement: the extent and perceived importance of an individual's participation in the beliefs and practices of a specific faith group (Burriss, Brechting, Salsman, & Carlson, 2009).

Conclusion

This chapter introduced the current study. It provided an overview of the current literature on potentially traumatic events, adjustment, and resilience, discussed the purpose of the study, the study's theoretical framework and provided a list of study specific terms and definitions. The subsequent chapters will provide a more thorough review of the literature, explain the research questions and hypotheses, and describe the study's design, methodology, and results.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter will provide an overview of the literature on college mental health, college student adjustment, exposure to potentially traumatic events, factors that impact adjustment to college, and resilience. First, the readers will be provided with an overview of college student adjustment, the current mental health needs of college students, and a history of college counseling. Next, this chapter will discuss exposure to traumatic events and their potential impacts on adjustment and will conclude with an overview of the literature on resilience and a summary of the proposed study.

College Student Mental Health

College students enter their institutions of higher education with a diverse array of backgrounds, stressors, resources, and protective factors. Additionally, students also may face many new challenges associated with the transition into adulthood and beginning college, such as handling more rigorous academics, navigating new social structures, being away from home for the first time, and effectively approaching increased independence (Belch, 2011). While many students may successfully navigate these changes, others may find the transition difficult (Belch, 2011; Brook & Willoughby, 2015; Brunner et al., 2014). In recent years, the emotional well-being of college students has become an increasing concern in institutions of higher education (Brunner et al., 2014; Harrar et al., 2010). For this reason, higher education faculty and staff place great importance on the adjustment and mental health concerns of college students (Brunner et al., 2014).

History of College Mental Health

College mental health services have existed for over 100 years; however, their purpose and function have evolved to meet the changing demographics and needs of the growing student population (Kraft, 2009, 2011). Before 1900, many people who had mental health disorders were institutionalized due to the fact that mental health disorders were primarily classified as chronic health disorders. The first campus health service, established in 1861, primarily focused on physical illness while clergy and faculty provided counseling for “spiritual or moral deficiencies,” (Kraft, 2009, p. 267).

In 1910, in response to an increased number of students leaving the institution with emotional problems, Princeton University established the first mental health services for students (Kraft, 2009, 2011). The next two decades saw an increase in mental health services as university placed increased focus on “mental hygiene.” These centers were primarily staffed by psychiatrists since there were not yet enough trained psychologists and social workers to staff the centers. From 1910-1960, campus mental health initiatives continued to grow, which led to the development of set of principal standards for college health, with a distinct focus on mental hygiene (Kraft, 2009). After the ending of World War II, the introduction of the Servicemen’s Readjustment Act of 1944, otherwise known as the GI Bill, led to an increase in college enrollment and mental health services for veterans and their families and a subsequent expansion in services. By the end of the 1950s, multidisciplinary teams of clinical psychologists, social workers, and psychiatrists were providing mental health services to students which included: counseling, medication management, and consultation for faculty and staff (Kraft, 2011).

From 1960-1980, campus mental health services solidified due to the “baby boomer” population reaching college age which led to an increased demand for services (Kraft, 2009;

Kraft 2011). During this time, many campus mental health departments merged with psychiatric departments in efforts to shift costs and streamline student services (Kraft, 2009). The demand for services continued to increase through the 1970s, which led campus mental health professionals to convene and form a committee that aimed to revise the *Diagnostic and Statistical Manual of Mental Health Disorders, Edition IV (DSM-IV)* (APA, 1994). These efforts resulted in the addition of diagnostic categories that could specifically be applied to college students, including adjustment concerns, eating disorders, and learning problems.

Over the last 30 years, campus mental health providers and directors have focused on improving resources for students (Kettmann et al., 2007; Kraft, 2009). To cope with a higher demand and limited resources, many counseling centers have moved to session limits and adopted brief treatment models (Kraft, 2009). Campus mental health initiatives have an increased focus on outreach and prevention to disseminate information to students who might not otherwise seek out mental health services, specifically students from marginalized groups (Kraft, 2009). Additionally, higher education is becoming increasingly more accessible to students from a wide array of backgrounds including first-generation college students, students of color, international students, and students from lower socioeconomic statuses (SES). The increase in the use of psychotropic medications has made college more accessible to student who may not have previously been able to function on college campuses. (Much & Swanson, 2010). These previously listed factors may introduce campus mental health professionals to wider array of presenting concerns than they have previously encountered.

Adjustment to College

Adjustment to college has been extensively researched over the past 30 years. There has been a relative consensus among researchers that the structure of adjustment is classified into

four domains: academic, social, personal-emotional, and institutional (Baker & Siryk, 1984; Credé & Niehorster, 2011). *Academic adjustment* refers to a student's ability to adapt to academic demands (Baker & Siryk, 1984; Credé & Niehorster, 2011). This goes beyond grade point average (GPA) and reflects students' attitudes towards their academic work and goals, their engagement with the course material, and the results of their studying and academic efforts. *Social adjustment* refers to students' social integration on campus including participation in extracurricular activities and their engagement in and satisfaction with new interpersonal relationships. *Personal-emotional adjustment* indicates the physical and psychological reactions to the new demands of the environment, or the degree to which students experience stress, anxiety, depression, or physical symptoms (e.g. sleeplessness or loss of appetite). Lastly, *institutional adjustment* refers to the degree in which students feel emotionally connected to the university. Students may adjust well in one domain, but not in another; thus, overall adjustment, can be classified as the degree to which students adapt in each of the four domains. (Baker & Siryk, 1984; Credé & Niehorster, 2011).

As the previously listed domains of adjustment indicate, adjustment to college is a multifaceted and multidimensional process (Baker & Siryk, 1984; Credé & Niehorster, 2011). Students are navigating new roles and responsibilities in addition to acclimating to a new environment (Credé & Niehorster, 2011). They experience unique and varying demands that require the acquisition of new skills and coping responses on both the cognitive and social domains (Baker & Siryk, 1984; Tinto, 1987; 1993). Students face common stressors of the college environment including higher academic demands, loss or diminishment of previously established social networks, forming new social connections, increased independence, and increased personal responsibility (Vaez & Laflamme, 2008). For many college students, this time

is a transitional period from adolescence to adulthood as they experience relatively quick changes in multiple areas of their lives, including personal relationships, finances, and environmental factors (Madewell & Ponce-Garcia, 2016). As such, adjustment to college is a turning point in development and time to bolster or acquire coping mechanisms.

Students are expected to experience some degree of difficulty while adapting to the college environment. For most, the adjustment period is relatively brief and causes little disruption (Tinto 1987; 1993). For others, the process can create a level of stress that has the potential to have adverse impacts on students' psychological and physical health (Friedlander, Reid, Shupak, & Cribbie, 2007). In a study investigating the psychosocial adjustment of 2,095 college aged students, Conley, Kirsch, Dickson, & Bryant, (2014) found that student subjective well-being decreased after entrance into college and self-reported psychological distress increased. Additionally, the researchers found that symptoms did not improve over the course of the academic year which suggests that students who report higher levels of distress are at an increased risk for leaving college (Belch, 2011). Given the difficulty many students face upon entrance into college and the link between adjustment and subsequent enrollment, researchers place great emphasis on factors that may predict or influence student adjustment to college (Banyard & Cantor, 2004).

While there is a relative consensus among researchers in regards to domains of adjustment, there is little consensus regarding antecedent factors that are predictive of adjustment (Credé & Niehorster, 2011). Credé & Niehorster (2011) conducted a meta-analysis of 20 years of adjustment to college literature and determined that demographic factors (i.e. age, gender, race/ethnicity, first generation status, nationality, ability status, and sexual orientation) and prior achievement were not as strong predictors of adjustment as were coping styles, emotional and

cognitive traits, and interpersonal relationships. While trait and academic variables are important in understanding why some students adjust well and others do not, they do not provide a complete picture of what places some students at risk for adjustment difficulties (Banyard & Cantor, 2004). Specifically, the focus on individual and academic traits leads to the idea that higher education officials can solely target traits to influence adjustment without considering environmental factors and experiences (i.e. factors that lie outside of the individual) that may make the adjustment process difficult.

Current Mental Health Needs of College Students

Today's college students report more mental health concerns and higher levels of stress than previous cohorts of students (Brunner et al., 2014). Soet and Sevig, (2006) surveyed 939 students to assess the prevalence of mental health disorders and associated distress in a treatment seeking population of students. When compared to a non-treatment seeking sample, students in counseling reported a higher rate of distress than their non-treatment seeking peers. Based on students self-report, the top concerns facing students were: depression (14.9%), eating disorders (6.1%), anxiety (5.9%), attention-deficit/hyperactivity disorder (4.2%) and posttraumatic stress disorder (PTSD) (3.4%) (Soet & Sevig, 2006).

Harrar et al., (2010) sought to examine the differences in psychological concerns in a sample of treatment-seeking and non-treatment-seeking college students. Approximately 29% of the students in the non-treatment-seeking sample ($n=252$) reported experiencing significant levels of distress, which was similar to the rates of distress for students who were seeking treatment. Similarly, the American College Health Association (ACHA) (2015) surveyed approximately 93,034 students across 108 institutions on information regarding health and mental health behaviors. Seven percent of college students reported that they were diagnosed

with a psychiatric disorder, 57.7% of students reported experiencing overwhelming anxiety, 35.3% reported experiencing debilitating depression, and 9.8% reported seriously considering suicide. These mental health concerns can have deleterious impacts on academics and overall adjustment.

In a study examining the impact of social anxiety on academic achievement, Brook and Willoughby (2015) found that increased levels of social anxiety are associated with lower grade point averages (GPA). Mental health concerns, regardless of a formal diagnosis can have negative impacts on a student's academic performance. Per the ACHA (2015), 23% of students reported experiencing anxiety that negatively affected their academic performance, 14% of students reported experiencing depression that negatively impacted their academic performance, and 32.5% of students reported experiencing stress that negatively impacted their academic performance (ACHA, 2015).

While many studies focus on academic impairment, students report that mental health concerns impact them in other areas as well, specifically in social settings. Krumrei, Newton, & Eunhee Kim, (2010) surveyed 3,844 students across nine different institutions to provide a picture of student mental health concerns and the degree to which their presenting concerns interfered with academics and social interactions. Forty-one percent of respondents experienced mood difficulties and 29.2% reported experiencing interpersonal concerns. Most participants reported that their presenting concerns interfered with their academic (87%) and their social lives (90%) on a moderate to severe level. The combined implications of these studies suggest that students living with mental health disorders, regardless of a formal diagnosis, may be at increased risks for academic and social impairment during their time at college, and potentially not completing their degrees.

Benefits of College Counseling

Unrecognized and untreated symptoms of mental health disorders can have detrimental impacts on the student's overall college experience (Hunt & Eisenberg, 2010). Colleges and universities present a unique opportunity for intervention, outreach, and counseling services since they can use multiple efforts and interconnecting departments to reach a diverse population of students who might otherwise not access services (Eisenberg, Hunt, & Speer, 2012; Ketchen-Lipson, Gaddis, Heinze, Beck, & Eisenberg, 2015). College counseling is beneficial in reducing student adjustment difficulties, reducing mental health distress and increasing student retention (Brunner et al., 2014; DeStefano, Mellott, & Petersen, 2001; Harrar et al., 2010; Lee, Olson, Locke, Michelson, & Odes, 2009). Furthermore, utilizing counseling services has been associated with an increase in graduation rates (DeStefano et al., 2001).

In a study assessing adjustment to college in a sample of treatment seeking and non-treatment seeking students, those who accessed campus counseling services reported fewer difficulties with academic and social adjustment than those who did not utilize services (DeStefano et al., 2001). Students accessing campus counseling services also reported lower overall symptoms of mental health distress than those who do not use services (Harrar et al., 2010). Lower levels of mental health distress can have impacts on academic distress and motivation as well (Lee et al., 2009; Lockard, Hayes, Neff, & Locke, 2014). In a study assessing the effects of college counseling on subsequent semester enrollment, Lee et al. (2009) determined that freshman and transfer students who received counseling services were more likely to enroll in courses in subsequent semesters than students who did not. These studies suggest that campus counseling services can be beneficial for students who are reporting difficulties in a variety of areas, primarily academic and personal-emotional concerns (DeStefano

et al., 2001; Harrar et al., 2010; Lee et al., 2009; Lockard et al., 2014).

Trauma

This next section will provide an overview of the literature on trauma and potentially traumatic events. The section will start with a history of trauma, provide a definition of potentially traumatic events, and will conclude with a discussion concerning the impact of potentially traumatic events on college student adjustment.

History of Trauma

The modern understanding of trauma is rooted in the works of Charcot, a French neurologist, who studied symptoms of hysteria in women (Levers, 2012; Spiers, 2001). Charcot determined that symptoms of hysteria were psychological in nature and occurred because of an unbearable experience, such as sexual assault, violence, or poverty. He subsequently named this phenomenon “nervous shock.” Charcot’s work caught the attention of Sigmund Freud, who continued these studies (Spiers, 2001). In 1896, Freud published *The Aetiology of Hysteria*, a collection of 18 case studies on women in which Freud described hysteria as resulting from early sexual experiences in childhood; however, these ideas were so unpopular at the time that he recanted his statements (Spiers, 2001). Freud resumed his work on trauma following World War I. In 1917, he published *Introductory Letters on Psychoanalysis*, in which he outlined symptoms of trauma that would later serve as the basis for the classification of post-traumatic stress disorder (PTSD) in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* (3rd ed., American Psychological Association [APA], 1980; Levers, 2012; Spiers, 2001). Freud also expanded the concept of traumatic events from an unbearable experience to include any occurrence that could result in fatality (Levers, 2012).

Grassroots movements in the 1970s and 1980s led to the further development of trauma response as a psychological construct (Levers, 2012; Spiers, 2001). Veterans returning from the Vietnam War were exhibiting high levels of distress related to combat exposure (Spiers, 2001). During this time, the women's movement was also gaining momentum and drawing more attention to the negative consequences of rape, incest, and sexual assault (Levers, 2012; Spiers, 2001). Psychiatrists began to notice similar symptoms in women who experienced sexual assault and combat veterans, including patterns of numbing, dissociative symptoms, and increased arousal (Levers, 2012).

The increased attention to traumatic experiences and traumatic symptoms led to the incorporation of PTSD in the 1980 revision of the *DSM-III* (APA, 1980; Levers, 2012). Before the 1980 revision, stress-related conditions were defined narrowly and were said to be caused by combat or civilian catastrophes. The 1980 revision of the *DSM* removed lists of qualifying traumatic events and instead listed a "recognizable stressor" as the cause of stress to distinguish PTSD from adjustment concerns (APA, 1980; Yehuda & Flory, 2007).

Since its initial incorporation in the *DSM*, the concept of a traumatic stressor has evolved and expanded to include cumulative stress and to include the subjectivity in traumatic responses (Kilpatrick et al., 2013; Yehuda & Flory, 2007). The incorporation of PTSD into the *DSM* was necessary as it filled a gap in knowledge and research regarding the impacts of trauma (Bonanno & Mancini, 2012). This inclusion instigated a wealth of research regarding the etiology, prevalence, and treatment of extreme trauma reactions; however, such research tends to ignore the broad range in responses to a traumatic stressor. Instead, research has tended to focus on PTSD and trauma reactions as occurring on a binary (i.e. pathology is present or it is not) rather than a spectrum of responses. Recently, trauma research has begun to shift to favor a broader

spectrum of responses to traumatic stress (Bonanno & Mancini, 2012). This overview of the history of trauma provides insight into its development, relative recency, and continual evolution of PTEs as a psychological construct.

Defining Potentially Traumatic Events

As was previously discussed, the concept and definition of a traumatic stressor have expanded over time from a series of narrowly defined events to include cumulative stress and a wider range of events. Throughout this write-up, the following definition will be used to refer to potentially traumatic event (PTE). The *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (5th ed, APA, 2013) lists a traumatic stressor as:

exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways: directly experiencing the traumatic event, witnessing, in person, the event(s) as it occurred others, learning that the traumatic event(s) occurred to a close family member or close friend..., experiencing repeated or extreme exposure to aversive details of the traumatic events(s). (e.g. first responders collecting human remains...) (p. 271).

The traumatic event has the potential to have “lasting adverse effects on an individual’s mental, physical, social, and spiritual well-being” (SAMSHA, 2014, p.7). The event may be a precipitating factor; however, a person’s subjective perception of the event may impact their response. A person’s response to a traumatic event can be determined by factors such as time, cultural beliefs, availability of social supports, and developmental stages (Substance Abuse and Mental Health Service Administration [SAMSHA], 2014). *Trauma* refers to the emotional response an individual has to an event that was perceived to be physically or emotionally harmful.

Traditional approaches to trauma tend to be rooted in the assumption that there is a homogenous response to a traumatic event, and that the absence of pathology is indicative of a higher level of functioning (Bonanno & Mancini, 2012). However, recent research has shown that there are multiple and unique trajectories following exposure to traumatic stress. Responses to PTEs tend to follow four potential paths: chronic dysfunction, delayed reaction, gradual recovery, and resilience (Bonanno & Mancini, 2012). Chronic dysfunction is typically categorized by a *DSM* diagnosis such as PTSD, anxiety, or depression. Delayed reaction, although infrequent, is characterized by the display subclinical symptoms of a diagnosis that tends to worsen over time,

Gradual recovery refers to those individuals who experience a temporary disruption in functioning (Bonanno & Mancini, 2012). While they may display symptoms of PTSD or depression, they gradually return to their pre-trauma levels of functioning. Lastly, resilience refers to individuals who may experience stress reactions, but they do not significantly interfere with their functioning. To highlight the range of potential responses to a traumatic stressor and the subjectivity in individual responses to trauma, the term *potentially traumatic events (PTEs)* will be used throughout this paper.

Exposure to Potentially Traumatic Events in College Students

Approximately one-third of young adults age 18-24 are in college and students in this age range are at an increased risk for exposure to PTEs (Anders et al., 2012, 2014; Edwards et al., 2016). Anywhere from 50-85% students report exposure to at least one PTE (Anders et al., 2014; Banyard & Cantor, 2004; Boyraz et al., 2015; P. Frazier et al., 2009; Read et al., 2011).

In a study assessing adjustment to college among trauma survivors, Banyard and Cantor (2004) reported that approximately 53% of participants reported experiencing at least one PTE in

their lifetime. Read et al., (2011) found similar rates in a sample of 3,014 incoming college first-year students, with approximately 66% of the participants reported exposure to at least one PTE. Similarly, the ACHA (2015) reported that 75% of students experienced at least one traumatic or stressful event in the past 12 months, with over half of respondents indicating multiple PTEs. These findings are consistent with community samples with anywhere from 67-89% of adults in the United States reporting PTE exposure (Bonanno & Mancini, 2012; Kilpatrick et al., 2013; Straussner & Calnan, 2014).

Given the subjectivity in response to events, it is challenging to clearly define what may constitute a PTE. Differences in how researchers defined PTEs may partially explain the differing rates in PTE exposure as the authors in the studies defined PTEs in a myriad of ways (Frazier et al., 2009). Some authors focused specifically on criterion A1 event exposure as is outlined in the *DSM-IV-TR* (APA, 2000), while others include non-criterion A1 events (e.g. the ending of a romantic relationship, bullying) that have been found to produce similarly distressing results, which increased the rates of PTE exposure in college students (Anders et al., 2014; Frazier et al., 2009).

Types of PTEs reported

Although students disclose exposure to several PTEs, there are commonalities in the types of PTEs reported. The most common PTE reported is the sudden or unexpected death of a loved one, with anywhere from 31-48.7% of trauma exposed students reporting this particular event (ACHA, 2015, Anders et al., 2012; Frazier et al., 2009; Read et al., 2011). Students also reported exposure to the following PTEs: life threatening accidents (21-30%) (Frazier et al., 2009; Read et al., 2011), witnessing family violence (23 – 27%) (Anders et al., 2012; Frazier et al., 2009), sexual assault in adulthood (21%), and childhood abuse (e.g. physical, emotional, and

sexual) (30%) (Maples, Park, Nolen, & Rosen, 2014) To a lesser extent, students reported experiencing intimate partner violence (7%) and combat exposure (2%) (Frazier et al., 2009).

Impact of PTEs on College Adjustment

Students exposed to PTEs may be at an increased risk for developmental or adjustment issues during their time in college and may encounter difficulty functioning on one or multiple domains of adjustment (Anders et al., 2014; Banyard & Cantor, 2004; Lee, Anderson, & Klimes-Dougan, 2016). Exposure to PTEs and associated PTSD symptomatology both have implications for student adjustment and retention. In a sample of trauma exposed students, those who reported more severe symptoms of distress following PTE exposure were less likely to remain enrolled in subsequent semesters (Baker et al., 2016; Boyraz et al., 2013; Duncan, 2000).

Exposure to PTEs can have a myriad of effects on students' personal-emotional adjustment (Banyard & Cantor, 2004). Students may experience an increase or the onset of depressive symptoms (Anders et al., 2015; Boyraz et al., 2015; Frazier et al., 2009), symptoms of anxiety (Frazier et al., 2009), or PTSD (Boyraz et al., 2015; Frazier et al., 2009). As was previously discussed, these symptoms of mental health disorders have the potential to influence students on multiple domains of adjustment. Further, students who experience PTEs often report decreases in physical health (Anders et al., 2014; Bonanno & Mancini, 2012).

Previous studies have indicated that there is a relationship between trauma exposure, psychological distress, and academic adjustment (Anders et al., 2012; Banyard & Cantor, 2004; Voisin, Neilands, & Hunnicut, 2011). Students who are exposed to PTEs report lower GPAs than their non-trauma exposed peers. Baker et al. (2016) concluded that a history of exposure to sexual violence was predictive of freshman year GPA, senior year GPA, and overall college enrollment; students who reported a history of sexual violence before matriculation into college

were less likely to remain enrolled in subsequent semesters. Similarly, Boyraz et al., (2013) found that GPA mediated the relationship between trauma exposure, psychological distress, and subsequent enrollment. Those students who reported higher GPAs and lower overall symptomatology were more likely to remain enrolled in college. These findings are consistent with other studies examining the effects of mental health concerns on academic persistence, regardless of event exposure. Students with higher rates of psychological distress reported lower GPAs, decreased academic productivity, and more concerns relating to degree completion (ACHA, 2015; Buchanan, 2012; Hunt, Eisenberg & Kilbourne, 2010; Herman et al., 2011).

The findings are mixed in regards to the effects of PTEs on social support. Some authors found that PTEs can have a positive effect on a student's on-campus social engagement (Grasso et al., 2012; Hofman, Hahn, Tirabassi, & Gaher, 2016) while others found that an increase in mental health symptoms were associated with isolation and withdrawal from social engagement (Anders et al., 2014; Buchanan, 2012; Herman et al., 2011). Loss or diminishment of existing social networks following exposure to a PTE is associated with an increase in psychological distress and difficulties with social adjustment (Galatzer-Levy, Burton, & Bonanno, 2012).

Impact of Interpersonal Violence and Childhood Abuse

Studies conducted on adverse childhood experiences (ACEs) have consistently shown the deleterious effects of childhood maltreatment and adversity (Mersky, Topitzes, & Reynolds, 2013). The Center for Disease Control and Prevention and Kaiser Permanente retrospectively assessed events that occurred to an individual before the age of 18 across three domains: abuse (i.e. physical, sexual, and emotional), household challenges (i.e. parent treated violently, substance use in household, parental divorce), and neglect (i.e. physical and emotional). These events were then linked to health outcome data from patient physical records. The results of

these studies showed that greater exposure to ACEs was linked with more self-reported mental health problems in adulthood such as mood and anxiety disorders (Goldberg, 2016; Mersky et al., 2013; Nurius et al., 2015), increased physical health problems such as liver and pulmonary disease (Anda et al., 2006; Goldberg, 2016) and increased alcohol and tobacco use (Anda et al., 2006; Nurius et al., 2015).

Forms of childhood maltreatment (i.e. physical, emotional, and sexual abuse) and interpersonal violence (i.e. physical assault, sexual assault) are consistently predictive of adjustment difficulties in college students (Arata et al., 2005; Brewin, Andrews, & Valentine, 2000; Duncan, 2000; Goldberg, 2016; Norris, 1992). Students who report experiences of childhood maltreatment, including physical, emotional, and sexual abuse, often report lower GPAs, more difficulty integrating into the campus social structure, and lower retention rates than students who do not report any form of childhood maltreatment (Duncan, 2000).

Students who report experiencing interpersonal forms of PTEs, or events that are perpetrated by another individual, report more psychological and physiological difficulties than students reporting other forms of trauma (e.g. traumatic loss, accidents, etc.) (Hetzel-Riggin & Roby, 2013; Krupnick et al., 2004). In a study assessing the impact of specific types of trauma on student adjustment, Hetzel-Riggin and Roby (2013) found that students who reported interpersonal forms of PTEs consistently indicated higher rates of PTSD, anxiety, and depression and more difficulties with personal-emotional adjustment than those who reported other forms of PTEs. These findings were consistent with those of Krupnick et al. (2004), who found that students who experienced various forms of interpersonal of PTEs reported increased difficulties with social adjustment and personal-emotional adjustment than peers who did not experience an interpersonal event.

Impact of Cumulative PTEs

Approximately half of individuals exposed to PTEs report exposure to multiple events (Elliott, Alexander, Pierce, Aspelmeier, & Richmond, 2009; Kilpatrick et al., 2013). Thus, it is important to examine the interrelationships between multiple, or cumulative, exposure to PTEs (Elliott et al., 2009). Experiencing multiple PTEs has also been consistently associated with poorer physical and mental health outcomes (Brewin et al., 2000; Elliott et al., 2009; Hetzel-Riggin & Roby, 2013). Nurius et al., (2015) determined that higher ACEs experienced is associated with poorer physical health, fewer resilience resources, and lower overall psychological well-being.

Mersky et al., (2013) conducted a study investigating the health impacts of ACEs exposure on a low income, urban, young adult population. The results of the study indicated that the negative impacts of cumulative experiences emerge as early as age 24. Individuals who reported a higher number of ACEs also reported higher and more severe rates of mood disorders and substance use. While most ACE studies have been conducted with adults later in life, Mersky et al., (2013) demonstrate the importance of assessing the impacts of PTEs in young adulthood as this period may serve as a link to long-term mental and physical health consequences later in adulthood.

In regards to college students, Arata et al., (2005) found that students who reported multiple forms of childhood maltreatment reported more symptoms of anxiety, depression, and suicidal ideation and more difficulties with self-esteem than individuals who reported one form of childhood maltreatment. Elliot et al., (2009) found similar results in a study assessing the impact of cumulative PTEs on overall adjustment in female college students. Cumulative exposure was more predictive of social and personal-emotional adjustment difficulties, than

single event exposure, with the exception of sexual assault (Arata et al., 2005; Banyard & Cantor, 2004; Elliott et al., 2009). Longer duration and greater frequency of PTEs is associated with more severe symptoms of anxiety, depression and PTSD, and lower GPAs, suggesting that the accumulative stress has a differential impact on adjustment than single-event exposure (Anders et al., 2012; Hetzel-Riggin & Roby, 2013; Krupnick et al., 2004).

Sociodemographic Predictors

Certain demographic or predispositional factors may place individuals at increased risk for exposure to PTEs. Further, these factors may influence the trajectory or an individual's response or adjustment following PTE exposure (Banyard & Cantor, 2004; Boyraz et al., 2015; Brewin et al., 2000; Read et al., 2011).

Gender. While rates of trauma exposure are similar in men and women, these groups may report exposure to different types of PTEs. Women are more likely to report instances of unwanted sexual attention or sexual assault, while men are more inclined to report a physical assault, accident, robbery or witnessing violence (Brewin et al., 2000; Frazier et al., 2009). Read et al., (2011) found that women were almost five times more likely to report sexual assault than men. These findings are similar to those in community samples. Hatch and Dohrenwend, (2007) conducted a review of over 30 years of literature regarding the distribution of stressful life events across sociodemographic characteristics. In this review, they found that men were more likely to report cumulative exposure in comparison to women (Hatch & Dohrenwend, 2007). In their meta-analysis of potential risk factors for PTEs and PTSD, Brewin et al., (2000) found that women were at an increased risk of developing PTSD following exposure to PTEs. However, effects of gender as a risk factor diminished when considering the proximity of the traumatic event and the nature and severity of the event (Brewin et al., 2000; Read et al., 2011).

Race and Ethnicity. Ethnicity and race may also be predictive of exposure to PTEs. Boyraz et al., (2015) determined that African-American students reported greater rates of exposure to PTEs than their European American counterparts; however, there was not a significant difference in the prevalence and expression of PTSD. Similarly, Read et al., (2011) found that ethnic and racial minority status is associated with a higher number of cumulative PTEs but it was not associated with the development of PTSD. Conversely, Hatch and Dohrenwend (2007) found that race and ethnicity is predictive of certain types of PTEs (i.e. witnessing violence, assault) but is not significantly associated with more cumulative traumas.

The conflicting findings warrant further investigation. Many of the studies had majority European American participants or either assessed two racial groups (e.g. European American and African Americans) or coded groups into two categories (e.g. European American and minority) (Brewin et al., 2000). Further, race is often studied in conjunction with other sociodemographic characteristics including gender and SES, and it may be difficult to determine the single effect of race as a predictor of PTEs, if any exists.

Socioeconomic Status. Socioeconomic status (SES) has been consistently found to be a predictor of PTE exposure, with lower SES being associated with higher cumulative event exposure (Brewin et al., 2000; Hatch & Dohrenwend, 2007; Read et al., 2011). Further, individuals from lower SES groups report more exposure to violent events than do their higher SES counterparts (Hatch & Dohrenwend, 2007; Mersky et al., 2013). While SES may be predictive of PTEs, it is not consistently predictive of PTSD or responses following PTE exposure (Brewin et al., 2000).

Factors of Resilience

As the previous section on trauma indicates, there is substantial research on the negative impacts of adverse life experiences and exposure to PTEs on college student adjustment, especially in regards to psychological and health outcomes (Bonanno & Mancini, 2012). The link between exposure to PTEs and subsequent physical and mental health outcomes has been well established (Kalmakis & Chandler, 2015; Nurius et al., 2015). The research on PTSD has dominated the field of trauma until relatively recently, when researchers noticed that resiliency, or normative functioning, following PTE exposure in adults was the norm, rather than an anomaly.

While the negative impacts of PTE exposure in young adulthood have been well-researched, factors of resilience as they relate to this unique period have not been well-established (Madewell & Ponce-Garcia, 2016). Such research is especially important since many individuals who report exposure to PTEs do not report long-term health consequences (Krupnick et al., 2013). Research on resilience indicates that transitional periods, such as young adulthood and entrance into college are potential turning points in development because there is a high likelihood of either a positive or negative outcome depending upon coping resources, cognitive traits, or available social support (Madewell & Ponce-Garcia, 2016). Considering that this transitional period is also when mental health disorders tend to emerge or become acute (Belch, 2011), it is important to study factors of resilience to increase the understanding of experiences, environments, and traits that can insulate the development or exacerbation of mental health concerns following PTE exposure.

This section will provide an overview of the literature related to resiliency, an independent variable in the proposed study. This section will discuss factors that may be

predictive of resiliency in college students including environmental factors, individual factors, and psychosocial factors.

Resilience Defined

Although the majority of students report exposure to PTEs (50-85%), only 6-12% of the undergraduate population in the United States report a lifetime prevalence of PTSD (Anders et al., 2012; Kilpatrick et al., 2013; Read et al., 2011; Straussner & Calnan, 2014). While still a significant sample of college students, these numbers suggest that many students adjust well despite exposure to PTEs. This concept of positive adaptation in the face of stress or trauma is called resilience (Masten, 2001).

The theory of resilience emerged out of research investigating how and why some individuals achieve positive outcomes in the presence of risk factors that threaten healthy development (Masten, 2001). Researchers originally examined resilience in the context of disadvantaged youth; however, the concept is applied to a multitude of settings including education, specific mental health concerns, business organizations, communities, and college students (Fletcher & Sarkar, 2013). After conducting a content analysis of differing definitions of resilience, Windle (2011), proposed the following definition:

the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation and “bouncing back” in the face of adversity. Across the life course, the experience of resilience will vary. (p. 152)

This definition highlights three core aspects of the process of resilience. First, there is usually the presence of significant stress or risk that has the potential to result in a negative outcome. Within the context of the proposed study, this would be exposure to PTEs. Second,

both an individual's personal characteristics and her or his environment serve as mediating variables to facilitate positive development. Third, the outcome is developmentally appropriate (Pangallo, Zibarras, Lewis, & Flaxaman, 2015; Windle, 2011). Within the context of the proposed study, a developmentally appropriate outcome is related to academic, social, and personal-emotional adjustment to college. This definition highlights the complex processes and interactions through which resilience occurs.

Resilience, then, can be thought of as a developmental process or trajectory rather than a fixed set of traits possessed by an individual (Bonanno, 2012; Kolar, 2011). It is not additive, nor is it necessarily the absence of psychological distress (Bonanno, 2012; Walsh, Dawson, & Mattingly, 2010), rather it is an individual's ability to harness the necessary resources in her or his environment in order to sustain well-being (Southwick, Bonanno, Masten, Panter-Brick, & Yehuda, 2014). Within the presence of risk that threatens development, individual factors may interact with environmental variables and risk factors to moderate or lessen the effects of the risk (Hartley, 2010; Masten, 2011; Ungar, 2013). The following sections will review the process of resilience within the context of college students and adjustment.

Factors of Resilience and College Student Adjustment

It is important to assess and examine the factors that may contribute to the variation in responses to PTEs, especially within college students who already face increased levels of stress due to adjusting to a new environment and the unique transitional period of college (Brunner et al., 2014). Individuals who are deemed resilient possess and utilize a combination of interpersonal and intrapersonal factors to mitigate the effects of PTEs (Banyard & Cantor, 2004). Within the college student population, interpersonal factors include high levels of familial and peer support and positive connections to the campus environment while intrapersonal factors

may include specific religious or spiritual beliefs.(Banyard & Cantor, 2004; Grasso et al., 2012; Pascarella & Terenzini, 1995; Tinto, 1987, 1993)

Social Support

Social support is a broad term that encompasses different subtypes including familial, peer, and institutional social support (Hofman et al., 2016). Social support is divided into two types: perceived and received. Perceived social support is an individual's subjective evaluation of the helpfulness and availability of the social network. Individuals perceive that their peers and family can provide the care, support, and resources necessary to cope with stressful events, while received social support refers to the amount of support that was given by a social network. Social support can serve as a buffer following stressful events (Campbell & Riggs, 2015; Hofman et al., 2016).

Social support, regardless of the type, has been found to be one of the most robust predictors of resilient trajectories in both community samples and samples of college students (Campbell & Riggs, 2015; Frazier et al., 2011; Galatzer-Levy et al., 2012; Grasso et al., 2012). Previous studies suggested that informal social networks may provide guidance and nondirective support that can facilitate the emotional management and processing of emotions following PTE exposure (Galatzer-Levy et al., 2012; Hofman et al., 2016). Furthermore, there may be a reciprocal process in which exposure to a PTE may result in the strengthening of existing social resources and the use of additional coping strategies (Grasso et al., 2012). Peer support and familial support, two specific types of social support that facilitate resilience are discussed next.

Peer Support. The presence of peer support has been well documented as a factor that predicts resilience and positive adjustment (Banyard & Cantor, 2004; Collishaw et al., 2007; Grasso et al., 2012; Mukherjee & Suresh, 2009). In a sample of students reporting mental health

disorders, Hartley (2010) found that the presence of peer support was the best predictor of student retention and subsequent graduation. Similarly, Collishaw et al., (2007) sought to examine predictors of resilience, in a group of adults who reported childhood physical, emotional, and sexual abuse. The results indicated that the perceived quality of peer friendships was associated with fewer symptoms of PTSD. More recently, Grasso et al., (2012) and Hofman et al., (2016) found that the perceived amount and quality of social support is predictive of fewer symptoms of PTSD in samples of college students reporting exposure to PTEs. The combined implications of these studies suggest that the perceived helpfulness of peers is an underlying and facilitative process in the development of resilient outcomes.

Familial Support. Similar to the research on peer support, perceived familial support has been found to be predictive of resilient trajectories following PTE exposure (Collishaw et al., 2007; Edwards et al., 2016). Collishaw et al., (2007) noted that strong relationships with caregivers were predictive of fewer symptoms of psychopathology in a community sample of trauma-exposed adults. Maples et al., (2014) had similar findings in a study assessing predictors of resilience in a sample of trauma-exposed college students. Participants who indicated more positive forms of familial and parental support reported fewer symptoms of PTSD.

Similar results have been found in non-trauma exposed students as well. Edwards et al., (2016), noted that perceived strain in parent or guardian relationships and more hostile familial environments is associated with fewer resilient trajectories in a sample of college students reporting mental health concerns. Jenkins, Belanger, Connally, Boals, and Durón, (2013) examined the relationship between familial support and perceived levels of stress in a sample of first generation college students. The authors noted that perceived familial support was predictive of lower levels of self-reported stress. The combined implications of these studies

suggest that familial support is a unique and significant contributor in the facilitative process of resilience in college students.

Religious Engagement

Religious engagement is defined as “the extent of an individual’s participation in institutionally sanctioned beliefs and practices of a faith group,” (Burris et al., 2009, p. 537). Spirituality is defined as “the experiences and feelings associated with a search for connection with the transcendent,” (Burris et al., 2009, p. 537). The two definitions are presented here to demonstrate that many consider religion and spirituality to be separate constructs, and one can be present without the other.

Religious engagement has been studied extensively in regards to trauma and factors of resilience. This construct can assist individuals in finding meaning or purpose following exposure to traumatic events (Perera & Frazier, 2013; Thomas & Savoy, 2014). Religious engagement is also of particular interest to researchers because this is a variable that can more easily be altered to impact the resilience trajectory, unlike personality characteristics or psychosocial predispositions such as age, gender, ethnicity, or SES (Burris et al., 2009). Further, when individuals encounter traumatic events, they may build or strengthen belief in a higher being, which is associated with more positive adjustment. Conversely, their faith in a higher power may be challenged, which is associated with more difficulties with adjustment (Thomas & Savoy, 2014).

Researchers have found positive associations between religion, spirituality, and resilient outcomes. In a study identifying demographic factors that predicted psychological well-being and distress in a sample of college students, Burris et al., (2009), concluded that spirituality and religion were predictive of psychological distress, but not necessarily psychological well-being.

As the importance of and engagement in religious practices decreased, psychological distress increased. Similarly, Kneipp, Kelly, & Cyphers (2009), examined the relationship between religion, spirituality, and adjustment to college. Results of their study indicated that both religion and spirituality were significant and unique predictors of adjustment to college, with increased importance on religion and spirituality predicting fewer difficulties with adjustment.

College Student Engagement Factors

Factors unique to college settings may also assist in facilitating the process of resilience in undergraduate students, specifically, engagement on campus, or active involvement in both academic and extracurricular activities (Tinto, 2006). Living on or near campus has consistently been associated with higher levels of social integration and campus involvement and engagement, both of which are important in the process of adjustment (Pascarella & Terenzini, 1995; Tinto, 1987, 1993). Living on campus is positively predictive of academic persistence and degree completion, even when controlling for pre-college characteristics such as high school GPA and SES. Further, Boyraz et al., (2013) found that campus and academic integration positively impacted students' GPAs and subsequent enrollment in college following PTE exposure.

When compared to students who live at home or commute to campus, students who live on or near campus are more likely to be involved with campus organizations, interact with faculty members and other students, and utilize campus facilities (Pascarella & Terenzini, 1995; Tinto, 1987, 1993). The differences in interactions suggest that housing may be influential and may facilitate the process of social integration and campus engagement, and thus, both campus housing and campus engagement may assist in promoting resilience in undergraduate students.

Mental Health Predictors

The presence of mental health related concerns before PTE exposure is associated with resilient outcomes (Brewin et al., 2000). When compared to students who do not have previous mental health diagnoses, individuals who report a previous psychiatric diagnosis, such as anxiety and depression, in childhood or adolescence often report more adjustment difficulties following PTE exposure (Collishaw et al., 2007; Frazier et al., 2011). In a study assessing risk factors for traumatic exposure in a sample of college students, Gil (2015) found that previous mental health diagnoses increased students' risk for exposure to PTEs and was also associated with an increased risk of developing post-traumatic stress symptoms.

In regards to resilient trajectories, the presence of a depressed mood, regardless of a formal mental health diagnosis, has been associated with lower levels of resilience in college students. Students who reported having a depressed mood reported lower resilient functioning than those who did not report depressed mood (Howell & Miller-Graff, 2014). Further, individuals who report higher levels of anxiety symptoms (both physical and cognitive) report lower levels of resilient functioning (Min, Yu, Lee, & Chae, 2013). The combined implications of these studies that the presence or absence of mental health concerns or mood difficulties, regardless of a formal diagnosis, prior to PTE exposure may play an integral role in determining the trajectory and level of adjustment and resilience following PTE exposure.

Subjective Event Severity

The subjective severity of the PTE may be indicative of resilient outcomes; however, there is not a general typology or rating scale for severity of PTEs. (Frazier et al., 2011). Direct events, which are experienced by an individual first-hand, are associated with increased mental health symptoms than are indirect events, which entails an individual hearing about the violent

death or injury of another person (Frazier et al., 2009; Thomas & Savoy, 2014). Events that last for a greater duration of time are also rated as more severe. Additionally, interpersonal forms of violence including physical assault, sexual assault, violent assault with a weapon, and childhood physical and sexual abuse tend to be rated as more severe than accidents, traumatic deaths, or witnessing violence (Edwards et al., 2016; Frazier et al., 2009; Rubin & Feeling, 2013).

Events that are perceived as less severe are associated with less severe symptoms of anxiety, depression, and PTSD (Brewin et al., 2000; Collishaw et al., 2007; Frazier et al., 2011). Brewin et al., (2000) determined that the perceived severity of the PTE is predictive of more severe symptoms of PTSD, depression, and anxiety. Collishaw et al., (2007) found similar results in a community sample of PTE exposed individuals. Those who reported more severe types of PTEs also reported higher rates of PTSD and associated mental health disorders. However, in a study examining how risk and protective factors mediated the presence of PTSD symptomatology in college students, Frazier et al., (2011) concluded that individual perceptions of the event were related to the severity of PTSD symptoms rather than the objective severity of the event.

Current Study

As the extended literature review suggests, adjustment to college is a multifaceted process that is associated with unique stressors (Belch, 2011; Brook & Willoughby, 2015; Brunner et al., 2014). Much of the current research regarding adjustment focuses on differing traits and coping styles that may impact adjustment, which does not provide a complete picture of experiences that may place students at risk for adjustment difficulties (Banyard & Cantor, 2004). A particular group of students at risk for adjustment difficulties are those who have experienced a PTE.

Exposure to PTEs in college students is a common experience with anywhere from 50-85% of students reporting PTE exposure. Such exposure places students at an increased risk for social, academic, and personal-emotional difficulties upon entrance into college (Anders et al., 2014; Baker et al., 2016; Banyard & Cantor, 2004; Boyraz et al., 2013, 2015; Frazier et al., 2009; Read et al., 2011). Much of the current literature focuses on maladaptive symptoms associated with PTE exposure such as depression, anxiety, and risk factors that often predict PTSD reactions (Anders et al., 2012; Banyard & Cantor, 2004; Read et al., 2011). Previous research has also indicated that interpersonal forms of PTEs and the reporting of multiple PTEs are consistently predictive of adjustment difficulties. The link between exposure to PTEs and subsequent physical and mental health outcomes has been well established (Bonanno & Mancini, 2012; Kalmakis & Chandler, 2015; Nurius et al., 2015); however, factors of resilience as they relate to this transitional period are still being researched (Madewell & Ponce-Garcia, 2016).

While the negative effects of PTEs are important to investigate, this does not provide a complete picture of factors or experiences that insulate the development or exacerbation of mental health concerns following PTE exposure, especially considering the relatively small number of individuals who report long-term issues. College students who have been exposed to PTEs likely already possess factors of resilience (Banyard & Cantor, 2004; Burriss et al., 2009; Read et al., 2011). Factors such as social support, familial support, campus engagement, religious and spiritual engagement, and the severity of the PTE contribute to resilient trajectories following PTE exposure. However, few studies have investigated the impact of accumulation and type of PTE together in relation to resilience, especially during this transitional period, instead focusing on maladaptive symptoms (Arata et al., 2005, Brewin et al., 2000). Further the

previously conducted studies faced generalizability issues due to their samples having primarily European-American females.

Research on resilience indicates that transitional periods, such as young adulthood and entrance into college are potential turning points in development (Madewell & Ponce-Garcia, 2016). Considering that this transitional period is also when mental health disorders tend to emerge or become acute (Belch, 2011), it is important to study factors of resilience to increase the understanding of experiences, environments, and traits that can insulate the development or exacerbation of mental health concerns following PTE exposure.

Given the high percentage of students who report PTEs, the growing number of students who report mental health concerns, and the unique transitional period, more research is warranted on factors of resilience as they relate to trauma exposure in college students, especially those that are unique to the college population. The research indicates that exposure to PTEs place students at an increased risk for adjustment concerns and that certain factors mitigate these risks. However, the manners in which these risk and protective factors interact to facilitate resilient trajectories are unclear (Madewell & Ponce-Garcia, 2016).

Lastly, the previously discussed research studies investigate the impact of lifetime PTE exposure on adjustment (Anders et al., 2014; Frazier et al., 2009). While the impact of lifetime exposure has implications in regards to student adjustment, it is also important to assess the impact of events that have occurred during college (Anders et al., 2014; Frazier et al., 2011). Pre-versus at college event exposure may have different impacts on a student's adjustment; however, few studies have examined the unique effects of event exposure at college.

Based on the identified gaps in the literature, this study aims to address the following questions:

1. What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?
2. What is the relationship between type and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?
3. To what extent does recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation of events?

Conclusion

This chapter provided an overview of the literature on college student mental health, adjustment, exposure to potentially traumatic events, and resilience. This chapter identified gaps in the literature and ended with an overview of the proposed study.

CHAPTER THREE

METHODOLOGY

The primary goal of this study was to explore the relationship between exposure to potentially traumatic events, resiliency factors, and adjustment to college. This chapter will provide an overview of the methodology for the study. The research questions and hypotheses, research design, participants, data collection procedure, and data analysis techniques will be discussed in further detail. This chapter will conclude with a discussion of the study limitations.

Research Questions and Hypotheses

The primary goal of this study was to explore the relationship between exposure to potentially traumatic events, resilience factors, and adjustment to college. A summary of the research questions and analyses can be found in Table 2. The following research questions and hypotheses were investigated:

Question One

What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis One

Type of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Two

What is the relationship between type and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis Two

Type and accumulation of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Three

To what extent does recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation of events?

Hypothesis Three

There will be significant difference in college student adjustment and resiliency factors ($p < .05$) based on type of event and recency of event when controlling for accumulation of events.

Research Design

The researcher utilized a non-experimental, ex post-facto research design to implement the study. The ex-post-facto design is a causal comparative approach in which the researcher compares differences between already established groups and seeks to establish a causal or functional relationship between events (Creswell, 2014; Lord, 1973). An ex post-facto research design is warranted due to the researcher's inability to manipulate variables or randomize groups (Lord, 1973). Further, an ex-post-facto design is warranted as it would be impractical and unethical to conduct an experimental study given the nature of the research (Lord, 1973).

This study utilized archival data collected from the Center for Collegiate Mental Health (CCMH). The CCMH is an international practice-research-network that integrates clinical work, research, and technology (Locke et al., 2011). The CCMH partners with over 240 colleges and universities across the United States to collect up-to-date information on the demographics and

mental health needs of treatment-seeking students to assist in informing clinical work, policy, and procedure.

The Setting

The researcher analyzed archival data from 49 counseling centers across the United States. All the centers in the data set were four year institutions that provide a variety of mental health services to students including: individual counseling, group counseling, academic coaching, crisis intervention, assessment, outpatient referrals, and consultation. These centers employ many mental health professionals including psychologists, psychiatrists, counselors, and social workers. The services provided are specific to the institution. Each contributing counseling center is provided a unique identifier variable to protect the confidentiality of the individual participants. Each institution received approval from their institutional review board (IRB) to contribute data to the national dataset. Additionally, the researcher obtained IRB approval for exempt research status (Appendix A).

Participant Characteristics

Participants were 6,735 undergraduate college students seeking services at university and college counseling centers at their respective institutions during the 2012-2013 and 2013-2014 academic years. The total number of participants varied for each variable depending on the demographic data that the specific institution gathered.

To be included in the final analysis, participants must have indicated exposure to at least one PTE. Participants included in the analysis were also traditional college age students, ages 18-24. Further, only participants who completed the demographic surveys and the assessments were included in the analysis. Participants who indicated that they were international students were

excluded from the final analysis to account for adjustment concerns that may arise due to navigating a new culture or country.

Participants' Statistics

All participants in the data set indicated their age. The ages in the sample ranged from 18-24, to reflect the traditional aged college student. The mean age of the sample was 20.6 years ($SD = 1.56$). Of the 6,637 participants who indicated their gender identity, 4653 (69.1%) students identified as female, 1921 (28.5%) students identified as male, 22 (0.3%) identified as transgender and 41 (0.6%) opted to self-identify. Table 1 depicts participants' demographic characteristics.

Table 1

Participants' Demographics: Race/Ethnicity, Gender Identity, Class Standing

Characteristic	n	%
Gender Identity (n = 6637)		
Female	4653	69.1
Male	1921	28.5
Transgender	22	0.3
Self-Identify	41	0.6
Race/Ethnicity (n = 6541)		
African American	853	12.7
Asian American	287	4.3
White	4126	61.3
American Indian/Alaskan Native	23	0.3
Hispanic/Latino/a	701	10.4
Multiracial	433	6.4
Native Hawaiian or Pacific Islander	17	0.3
Self-Identify	101	1.5
College Class (n = 1606)		
Freshman	1606	23.8
Sophomore	1596	23.7
Junior	1788	26.5

Senior

1745

25.9

A total of 6,541 students in the sample indicated their race and ethnicity. For the students who disclosed their race/ethnicity, 4126 (61.3%) students identified White, 853 (12.7%) of students identified as African American, 701 (10.4%) students identified as Hispanic/Latino/a, 455 (6.4%) identified as multiracial, 287 (4.3%) students identified as Asian American, 101 (1.5%) opted to self-identify, 23 (0.3%) students identified as American Indian/Alaskan Native and 17 (0.3%) identified as Native Hawaiian or Pacific Islander.

This study was conducted on undergraduate, treatment seeking college students. All participants in the sample indicated their academic class. At the time of data collection, 1606 (23.8%) of students were freshman, 1596 (23.7%) were sophomores, 1788 (26.5%) were juniors, and 1745 (25.9%) were seniors.

Participants reported a broad range of PTEs, which are depicted fully in Table 2. The most common PTE reported was emotional abuse in childhood, with 2912 (43.3%) of students reporting this specific event. Sexual violence in adulthood (i.e. stalking, attempted or completed rape, intimate partner violence) was the second most common event with 1812 (26.9%) of students reporting this specific event. The next most common event were events listed as “other” (1566, 23.3%). These events could range from parental incarceration to bullying. Approximately 1,119 (16.6%) of students reported experiencing physical abuse in childhood. Lastly, sexual abuse in childhood was the fifth most common event with 935 (13.9%) students selecting this as a PTE.

Table 2

Statistics for Potentially Traumatic Event Exposure by Type

Event	n	%
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Physical Abuse in Childhood	1119	16.6
Sexual Abuse in Childhood	935	13.9
Emotional Abuse in Childhood	2913	43.3
Physical Attack	908	13.3
Sexual Violence in Adulthood	1812	26.9
Military Combat	21	0.3
Kidnapped or taken hostage	56	0.8
Serious Accident	742	11
Terrorist Attack	57	0.8
Near Drowning	658	9.8
Life Threatening Illness	233	3.5
Natural Disaster	370	5.5
Imprisonment or Torture	67	1.0
Animal Attack	239	3.5
Other Event	1566	23.3

N=6735

Approximately half of the sample ($n = 3,834$, 56.9%) reported exposure to one PTE. The remaining portion of the students reported exposure to multiple events. A little less than one-quarter of the sample reported experiencing two PTEs ($n=1,647$, 24.5%). A small portion of students reported experiencing more than five events ($n= 62$, 0.9%). Table 3 presents the statistics for PTE exposure by accumulation.

Table 3

Statistics for Potentially Traumatic Event Exposure by Accumulation

Number of Events Experienced	n	%
1	3834	56.9
2	1647	24.5
3	750	11.1
4	309	4.6
5	133	2.0
6+	62	0.9

N = 6735

Data Collection Procedure

The archival data were collected during the 2012-2013 and 2013-2014 academic years. Participants provided consent at the time of services by indicating agreement that their records may be used for possible research and evaluation. Participating institutions collected data through Titanium Scheduling Software, an online scheduling and record keeping database for college counseling centers. Participants are asked to complete demographic data and to complete assessment forms prior to receiving services at their respective counseling center. Participating institutions decided how to administer assessment forms. Some institutions administered assessments upon initiation of services and termination, while others tracked progress over time. Thus, participants may have had multiple instances of assessments. Some participants completed multiple counseling episodes during the time of data collection, and thus, may have had multiple intake paperwork. For this analysis, the date of the first assessment was included. To ensure the anonymity of participants, all unique and individual identifiers including name, institution, and student identification number were removed and each participant was provided a unique client identification number.

Instrumentation

Participants provided demographic information through the standardized data set (SDS). They completed the college counseling assessment of psychological symptoms (CCAPS-62) prior to initial receipt of services. Informed consent was provided prior to receipt of services and participants provided a separate informed consent for their data to be used in a national data set.

College Counseling Assessment of Psychological Symptoms-62 (CCAPS-62)

The CCAPS-62 is a 62 item self-report questionnaire that is designed to assess mental health symptoms in college students and to track the most prevalent mental health concerns in

college students (Center for Collegiate Mental Health [CCMH], 2015; Locke et al., 2011) (Appendix B). Questions were presented in a randomized format to reduce social desirability (Center for Collegiate Mental Health [CCMH], 2015). Students were presented with statements regarding their mental health and were instructed to respond based on their experiences in the previous two weeks. Each statement is followed by a 5-point scale ranging from 0 (*not at all like me*) to 4 (*extremely like me*). This self-report measure is comprised of eight subscales that indicate prevalent mental health concerns in college students: depression, generalized anxiety, social anxiety, academic distress, eating concerns, family distress, hostility, and alcohol use (Locke et al., 2011).

The CCAPS-62 has stable psychometric properties. Locke et al., (2011) conducted an exploratory factor analysis using a large sample ($n = 11,106$) of college counseling center clients. The structure of this assessment was confirmed using a cross-validation sample ($N = 10,954$). The results of the study indicated a strong confirmatory model fit (comparative fit index = .97). Internal consistency for each subscale ranged from .78-.92. Two-week test-retest reliability coefficients (.76-.96) indicated that subscale scores were relatively stable over a two-week period for students who were not attending counseling. Convergent validity was established in two separate studies (Locke et al., 2011; McAleavey et al., 2012). Using two separate samples ($N = 499$ and $N = 3,470$), the researchers had participants complete several referent measures that correspond to subscales on the CCAPS-62. The results of both studies indicated that the CCAPS-62 subscales correlated strongly with the intended measure.

Each subscale on the CCAPS-62 has been shown to accurately measure their intended constructs for both treatment seeking and non-treatment seeking college student population (McAleavey et al., 2012). Subscale scores can be assessed individually or looked at as an overall

distress index score. The following subscales are combined to create an overall distress index score: depression, generalized anxiety, social anxiety, academic distress, and hostility. For this reason, the researcher will focus specifically on the distress index score as it specifically applies to definitions of personal-emotional, social, and academic adjustment outlined by Baker and Siryk (1984).

Participants taking the CCAPS receive a raw score for each subscale, which are divided into three ranges of distress: low, moderate, and high (CCMH, 2015). Low scores (below 1.21) correlate with students who report no or minimal distress or students who are not in treatment. Moderate scores (between 1.21 and 2.15) indicate levels of distress that are consistent with students who are in counseling. High scores (above 2.15) were developed using CCAPS and *DSM-IV-TR* criteria. These scores may indicate a potential diagnosis from the *DSM*.

The depression subscale consists of 13 questions that assess feelings of isolation, worthlessness, sadness, lack of enjoyment, and suicidal ideation. Examples of questions on this subscale include *I feel isolated and alone*, and *I feel worthless*. A raw score of 1.09 indicates low levels of depression (CCMH, 2015). Scores between 1.09 and 1.70 indicates moderate levels of depression and raw scores above 1.70 indicate high levels of depression and possible threshold for a diagnosis from the *DSM*. The reported Cronbach's alpha rating for the depression subscale is .91 (CCMH, 2015).

The subscale for generalized anxiety is comprised of nine questions that assess somatic symptoms of anxiety such as racing thoughts, sleep difficulties, or racing heart. Examples of questions on this subscale include *I have spells of terror or panic* and *My heart races for no good reason*. A raw score of 1.25 indicate low levels of anxiety, scores between 1.25 and 1.70 indicates moderate levels of anxiety and scores above 1.70 indicates high levels of anxiety. The

reported Cronbach's alpha rating for the generalized anxiety subscale is .85. The subscale for social anxiety is comprised of 7 questions that assess shyness, level of comfort around others, and ability to form new relationships. Examples of questions include: *I make friends easily*, and *I am concerned that others do not like me*. A raw score of 1.72 indicates a low level of social anxiety, scores between 1.72 and 2.50 indicates moderate levels, and scores above 2.50 indicate high levels of social anxiety. The reported Cronbach's alpha rating for this subscale is .78.

The academic distress subscale, consisting of 5 items, measures motivation, academic confidence, enjoyment, and concentration. Examples of questions include: *It is hard to stay motivated for my classes*. A raw score of 1.42 indicates low levels of academic distress. Moderate levels range between 1.42 and 2.40, and high levels of academic distress are above 2.40. The reported Cronbach's alpha rating is .78 (CCMH, 2015). Lastly, the hostility subscale is comprised of 7 questions assesses feelings of frustration, anger, and ability to regulate emotions. Examples of questions include: *I feel irritable*. A raw score of .82 indicates low levels of hostility, scores between .82 and 1.43 indicates moderate levels, and scores above 1.43 indicates high levels. The reported Cronbach's alpha rating is .86.

Table 4

Description of Select CCAPS-62 Subscales

Scale	# of Items	Sample Item	Cronbach's Alpha	Cut Points		
				Low	Moderate	High
Depression	13	<i>I feel worthless</i>	.91	<1.09	1.09-1.70	>1.70
Generalized Anxiety	9	<i>I feel tense</i>	.85	<1.25	1.25-1.70	>1.70
Social Anxiety	7	<i>I make friends easily</i>	.82	<1.72	1.72-2.50	>2.50
Academic Distress	5	<i>I enjoy my classes</i>	.78	<1.42	1.42-2.40	>2.40
Hostility	7	<i>I feel irritable</i>	.86	<.82	.82-1.43	>1.43

Standardized Data Set (SDS)

The SDS is a standardized set of demographic and mental health questions that are typically administered to students before receiving counseling services. The SDS was developed with input from over 100 counseling centers. The SDS was used to assess key demographic variables including exposure to PTEs, gender, race/ethnicity, and resiliency factors.

Exposure to Potentially Traumatic Events. Previous research has indicated that type of event is predictive of adjustment difficulties in college students (Arata et al., 2005; Brewin et al., 2000; Duncan, 2000; Goldberg, 2016; Norris, 1992). Further, experiencing multiple PTEs has also been consistently associated with increased adjustment difficulties (Brewin et al., 2000; Elliott et al., 2009; Hetzel-Riggin & Roby, 2013). Participants were asked to indicate whether they have experienced a traumatic event that has caused intense fear, helplessness, or horror. This question is based on the *DSM-IV-TR* (APA, 2000) diagnostic criteria for a potentially traumatic stressor. The questions regarding PTEs ask participants to indicate the recency of the event (ranging from last two weeks to more than five years ago), the number of times they have experienced a PTE (ranging from never to more than five times), and the specific event experienced. Examples of events include being diagnosed with a life-threatening illness, physical attack, and childhood physical abuse. The researcher grouped the variables based on interpersonal forms of exposure (i.e. sexual assault and abuse) and non-interpersonal forms (i.e. life threatening illness, near drowning etc.).

Religion/Spirituality. Participants were asked to identify their religious/spiritual preference from 10 categories including Christian, Jewish, Agnostic and Hindu. Participants were also asked to rate the importance of their religious/spiritual preference on a five-item Likert scale ranging from very unimportant to very important. Religious engagement has been studied

extensively in regards to trauma and resilience and has been found to be a facilitative process in the trajectory of resilience and thus, is an important factor in the analysis (Perera & Frazier, 2013; Thomas & Savoy, 2014).

Familial and Peer Support. Social support, regardless of the type, has been found to be one of the most robust predictors of resilient outcomes in both community samples and samples of college students (Campbell & Riggs, 2015; Frazier et al., 2011; Galatzer-Levy et al., 2012; Grasso et al., 2012). Participants responded to two separate questions assessing their perceptions of the familial and peer emotional support respectively.

College Engagement Factors. Students were asked to indicate their level of involvement in extracurricular activities (ranging from no activities regularly attended per week to five or more activities regularly attended per week). Students also indicated whether they lived on or off campus. Factors unique to college settings may also assist in facilitating the process of resilience in undergraduate students. Specifically, engagement on campus, or active involvement in both academic and extracurricular activities and living on campus may be a factor in differing levels of social adjustment (Tinto, 2006). Thus, these specific engagement factors were included in the analyses.

Gender. Gender has been associated with the type of exposure and accumulation of experiences (Brewin et al., 2000; Frazier et al., 2009; Hatch & Dohrenwend, 2007). This demographic variable will be considered, as there may be differences in the type and accumulation of trauma. The SDS allows participants to choose between male, female, transgender or other.

Race/Ethnicity. Race and ethnicity may be predictive of exposure to PTEs, with those identifying as a racial or ethnic minority reporting higher exposure (Boyras et al., 2015; Read et

al., 2011). However, race and ethnicity has not been significantly associated with the development of PTSD. Further, the samples used in previous studies were primarily European-American, indicating the need to assess further for racial and/or ethnic differences.

Financial Distress. Socioeconomic status (SES) has been consistently found to be a predictor of PTE exposure, with lower SES being associated with higher cumulative event exposure (Brewin et al., 2000; Hatch & Dohrenwend, 2007; Read et al., 2011). Participants were asked to rate their level of stress in regards to their current financial situation and their financial situation growing up (ranging from always stressful to never stressful). While not a true measure of SES, the level of stress associated with finances may be associated with PTEs.

Data Analysis

Data analysis began with data cleaning. All variables were defined and labeled and the data were screened for missing variables or data entry errors. Further, data that appeared to be nonsensical (i.e. little differentiation between survey items) was removed from the data set, as were empty records, or cases had no data were removed from the dataset.

Descriptive statistics were performed regarding demographic variables. Separate analyses were conducted for each research question. All variables were screened to ensure they met the assumptions of hierarchical linear regression and multivariate analysis of covariance. First, the researcher ensured that there was a continuous dependent variable and at least two independent variables that were either continuous or nominal (Field, 2009). Data were screened for normality, independence of errors, linear relationships between predictor and outcome variables, absence of multicollinearity between predictor variables, equal error variances among groups, and outliers (Field, 2009; Tabachnick & Fidell, 2013). Additionally, assumptions unique to multivariate

analysis of covariance (MANCOVA), sample size adequacy and homogeneity of variance and covariance matrices were assessed.

Research Question One. A hierarchical regression was performed to determine if type of trauma and resilience factors are predictive of student adjustment when factoring in demographic variables.

Research Question Two. A hierarchical regression was performed to determine if severity, as measured by type and accumulation, of trauma, and resilience factors are predictive of student adjustment when factoring in demographic variables.

Research Question Three. A two-way MANCOVA was conducted to examine differences in CCAPS scores, resiliency factors, and college engagement factors based on recency and type of event when controlling for accumulation of events.

Table 5

Research Questions, Variables, and Analyses

Research Question	Independent Variables	Dependent Variables	Analysis
What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment seeking college students when adjusting for demographic variables?	Type of PTE Peer and Familial support Campus engagement Religion/Spirituality Gender Race/ethnicity SES	Distress Index - CCAPS-62	Hierarchical regression

What is the relationship between extent and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment seeking college students when adjusting for demographic variables?	Type of PTE Accumulation of PTE Peer and Familial support Campus engagement Religion/Spirituality Gender Race/ethnicity SES	Distress Index - CCAPS-62	Hierarchical regression
To what extent does recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation of events?	Time since PTE Accumulation of PTE Type of PTE	Distress Index – CCAPS-62 Resiliency factors College engagement	Two-way Multivariate Analysis of Covariance

Limitations

As with any research study, this research had limitations, which should be noted. First, the study was a non-experimental ex-post facto research design. Causation cannot be determined due to an inability to manipulate variables (Lord, 1973). As a result, this may impact both the internal and external validity. Internal validity refers to one's ability to draw conclusions from the data about the participants of the study (Cresswell, 2014). This study was comprised of

treatment seeking students, thus, selection may be a threat to internal validity as students with differing levels of adjustment outcomes may not seek out counseling services or attend college at all. History, which refers to events that happen during time of treatment, is also a threat to internal validity. Maturation refers to normal developmental changes that occur over time and may influence results. Further, social desirability is a possibility when responding to survey questions (CCMH, 2015).

External validity refers to the degree to which one can generalize results to other populations or circumstances (Cresswell, 2014). This study was comprised of students at four-year institutions, and thus may not be generalizable to students at two-year institutions. As was previously mentioned, this study looked specifically at treatment seeking individuals, and thus may not be generalizable to the entire college student population.

Conclusion

This chapter reviewed the methodology for the current study and provided further detail regarding the research design, participants, participant demographics, setting, instrumentation, and data analysis procedures. This chapter concluded with a discussion of limitations.

CHAPTER FOUR

RESULTS

The purpose of this study was to investigate the relationship between exposure to PTEs, factors of resilience, and college student adjustment in a national sample of treatment-seeking college students. This study attempted to add to the existing body of literature by differentiating between the impact of types and accumulations of trauma while highlighting underlying factors of resilience and trajectories. Further, this study controlled for key demographic variables including gender, ethnocultural identity, previous counseling experience and financial distress, which have been found to be predictive of PTE exposure. This chapter will review the results of the statistical analyses for the current study. Data cleaning and preliminary are discussed in further detail. The results of the statistical analysis for each research question are provided.

Data Cleaning

Data cleaning was conducted using SPSS software version 22. Data were screened for missing values and outliers. Participants who did not meet the inclusion criteria were screened out of the data set. Additionally, some participants had multiple instances of data, the researcher only included the first date of data collection in the analysis. The CCAPS data and subscales were recoded to reflect the most current form of the instrument. Participants who did not have valid CCAPS instruments (i.e. little differentiation between answers) or incomplete demographic data were removed from the dataset, yielding a total of 6,735 participants, which is a sample size sufficient for statistical power in the hierarchical linear regression and two-way MANCOVA analyses (Tabachnick & Fidell, 2013).

Additionally, the researcher computed new variables. Type of traumatic event was grouped into interpersonal ($n= 4,873, 72.4\%$) and noninterpersonal forms ($n= 1,862, 27.6\%$) and

a new variable, accumulation of PTEs, was created by conducting a frequency count of events. After missing values were removed and new variables were computed, demographic variables were dummy coded for regression analyses.

Each variable was coded into a 0 or 1. Gender was coded as a 1 for female ($n= 4,653$, 70.1%) and 0 for not female ($n= 1,984$, 29.5%) to reflect the majority of students who access counseling services and to reflect the gender differences in regards to PTEs experienced (Brewin et al., 2000; Frazier et al., 2009). Previous counseling experiences was coded as 0 for never attended counseling ($n= 3,176$, 47.2%) and 1 for attended counseling ($n= 3,559$, 52.8%). Race/ethnicity was coded as 0 for racial/ethnic minority ($n= 2,541$, 36.9%) and 1 for White ($n= 4,126$, 63.1%) to reflect most participants who accessed counseling services in the sample. Current financial distress was coded as 1 for experiencing financial distress ($n= 5,371$, 79.7%) and 0 for not experiencing financial distress ($n= 1,364$, 20.3%). Past financial distress was coded the same manner ($n= 2802$, 41.6% and $n=3933$, 58.4%)

Resilience factor variables were also recoded for regression and two-way MANCOVA analyses. For the regression analyses, peer and familial support were dummy coded into agree (1) or did not agree (0). Religious/spiritual importance was coded into unimportant (0) and important (1). The housing variable was coded into lives on campus (1) and does not live on campus (0). These variables are reflected in Table 6. The campus engagement factor was recoded to reflect proper weight in the regression equation. The original scaling was 1 (no time spent in extracurricular activities) to 5 (three or more regularly attended activities). This scale was recoded on a 0-2 scale with 0.5 increments to reflect the notion that increased extracurricular involvement has differential impacts on adjustment than little or no extracurricular involvement. The same scale was applied to peer and familial support for the MANCOVA analyses to reflect

the assumption that increasing levels of social support buffer the impact of potentially traumatic events. Lastly, the recency variable was computed using the date of the appointment, year in school, and the time elapsed since the most recent event to reflect whether the most recent event occurred at college ($n= 1292$) or before college ($n=1294$).

Table 6

Description of Dummy Coded Resilience Factor Variables

Variable	<i>n</i>	%
Family Support		
Agreed	3436	51.0
Did not Agree	2097	31.1
Peer Support		
Agreed	3839	57.0
Did not agree	1553	23.1
Religious/Spiritual Engagement		
Important	2724	40.4
Not important	1570	23.3
Housing		
On Campus	3442	54.6
Not on Campus	3099	47.4

Data Screening

Following data cleaning and recoding, the data were screened for univariate and multivariate outliers, normality and linearity. There were 62 outliers present for the cumulative PTE variable as was evidenced by the presence of values that were more than three standard deviations away from the mean (Field, 2009; Tabachnick & Fidell, 2013). The researcher removed these values through winsorization, or assigning the highest extreme value that is not an

outlier. The research opted to winsorize the variable as both regression and MANCOVA analyses are sensitive to outliers (Field, 2009). There were no outliers present for the remaining continuous variables as was assessed by boxplot.

Data were assessed for normality utilizing Kolmogorov-Smirnov test for normality. The test indicated that data was not normally distributed for the following variables: club involvement ($D(6735) = .22, p < .001$), family support ($D(6735) = .22, p < .001$), peer support ($D(6735) = .21, p < .001$), religious/spiritual engagement ($D(6735) = .24, p < .001$), cumulative PTEs ($D(6735) = .32, p < .001$), and adjustment as measured by the distress index (DI) ($D(6735) = .05, p < .001$). Large samples of data are sensitive to small deviations in normality, and as such, skew and kurtosis were examined in addition to the tests for normality (Field, 2009). The data were approaching normality as was assessed by skew and kurtosis (see Table 7). Apart from cumulative PTEs, the continuous variables were approaching normality as the values for skew and kurtosis were less than, or near, one (Field, 2009). The researcher opted not to transform the cumulative PTE variable as the central limit theorem indicates that in large sample sizes (i.e. above 30), the data are normally distributed (Field, 2009). Dichotomous variables were determined to be normal as they had less than 90% of participants in one group (Tabachnick & Fidell, 2013). This is to ensure that one group is not contributing most of the variance in the regression and MANCOVA analyses.

Table 7

Descriptive Statistics for Continuous Variables

Characteristic	<i>M</i>	<i>SD</i>	Skewness(<i>SE</i>)	Kurtosis (<i>SE</i>)
Distress Index	1.92	.82	-.16(.03)	-.66(.06)
Cumulative PTEs	1.72	1.02	1.5(.03)	1.6(.06)
Family Support	.79	.49	-.00(.03)	-1.05(.06)

Peer Support	.83	.46	-.12(.03)	-.84(.06)
Religious/Spiritual Engagement	.72	.43	.37(.03)	-.63(.06)
Club Involvement	.69	.53	-.01(.03)	-.13(.06)

Correlations Among Research Variables of Interest

Pearson product moment correlations were calculated using SPSS 22 to explore the direction and strength of the relationships between variables of interest. The researcher conducted correlations before analyses as correlational relationships impact the design and interpretation of statistical models (Tabachnick & Fidell, 2013). Select correlations will be discussed next; however, a full correlation table including all variables measured in this study is included in Appendix C.

There were multiple significant correlations among variables of interest. Adjustment, as measured by the DI, had a negative small correlation with club involvement ($r = -.15, p < .001$), signifying that as club involvement increases, adjustment difficulties decrease. Adjustment scores also had a negative, small correlation with family support ($r = -.21, p < .001$) and peer support ($r = -.24, p < .001$), suggesting that increased agreement regarding social support is associated with lower adjustment difficulties. Adjustment scores were positively associated with cumulative PTEs ($r = .19, p < .001$), indicating that as PTEs increased, so did adjustment concerns. The effect size of this correlation was small.

Peer and familial support were also positively correlated ($r = .27, p < .001$). As agreement regarding perceived familial support increased, so did perceived peer support. The effect of this size was small. There was also a moderate, significant correlation between PTE type and cumulative PTEs ($r = .36, p < .001$). Interpersonal forms of PTEs were associated with higher cumulative PTEs. Lastly, there was a small, significant correlation between the type of

PTE and perceived familial support ($r = -.20, p < .001$) and accumulation of PTEs and perceived familial support ($r = -.20, p < .001$). Interpersonal PTEs and accumulation of PTEs were associated with lower levels of perceived familial support.

Assumptions for Hierarchical Regression

The assumptions for hierarchical regression are: the presence of a continuous dependent variable and at least two independent variables that are continuous or nominal, approximately normal distribution, independence of observation, linear relationships between predictor and outcome variables, absence of multicollinearity between predictor variables, no outliers, highly influential cases, or high leverage points and equal error variances among groups (Field, 2009; Tabachnick & Fidell, 2013).

The first assumption for hierarchical regression was met as the researcher had one continuous dependent variable and multiple dichotomous and continuous independent variables. The assumption of normality was also met as was assessed by visual examination of Normal Q-Q plots. There was a linear relationship between the predictor and outcome variables as was assessed by partial regression plots and plots of studentized residuals against the predicted values. There was independence of observations as was assessed by a Durbin-Watson statistic of 1.848 for research question one and 1.931 for research question two.

The assumption of homoscedasticity was met as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values, which demonstrated equal error variances for all values of the predictor variable (Field, 2009). There was no multicollinearity, as assessed by tolerance values greater than 0.1 and variance inflation factors (VIF) of less than 10. There was one highly influential data point as assessed by Cook's distance being greater than one. This data point was removed from the regression analysis. There were no studentized

deleted residuals greater than three standard deviations, and no leverage values greater than 0.2, meeting the assumptions of no outliers or high leverage points.

Assumptions for Two-Way MANCOVA

The assumptions for a two-way MANCOVA include: a continuous dependent variable, a categorical independent variable, independence of observations, linearity, no multicollinearity, absence of outliers, multivariate normality, adequate sample size, homogeneity of variance and covariance matrices, and homogeneity of variance (Field, 2009; Tabachnick & Fidell, 2013).

As was previously discussed, the assumption for linearity was met as assessed by visual inspection of a scatterplot and there was no multicollinearity as evidenced by Pearson correlations ($|r| < .90$). There were no univariate outliers as assessed by boxplot. The assumption for multivariate outliers was violated as there were 24 values that had Mahalanobis distance values higher than the critical cutoff point ($D^2 > 20.52$; $p > .001$). The researcher ran the analysis with the multivariate outliers and without, and opted to keep the multivariate outliers as there were no differences in results (Tabachnick & Fidell, 2013).

The assumption for multivariate normality was violated as assessed by Shapiro Wilk's Test for normality, ($D(3018) = .88$, $p < .001$); however, this test is sensitive to small deviations from normality, especially for large sample sizes (Field, 2009). There was homogeneity of variance, as assessed by Levene's test for equality of variance, for club involvement ($F(3, 2582) = 1.54$, $p = .203$), peer support ($F(3, 2582) = 1.72$, $p = .160$), religion/spirituality ($F(3, 2582) = 1.46$, $p = .223$), and the DI ($F(3, 2582) = 1.70$, $p = .164$). However, this assumption was violated for family support, $F(3, 2582) = 2.93$, $p = .033$). Lastly, the assumption for homogeneity of covariance matrices was violated as assessed by Box's M test ($F(45, 5559009) = 1.42$, $p = .031$). It is possible that the test was significant due to the large size of the data (Field, 2009).

Tabachnick and Fidell (2013) suggest that findings can be trusted for larger sample sizes as the probability values are more conservative. Given the significance of Box's M test, the researcher opted to interpret Pillai's trace test statistic, as this test is the most conservative test statistic, and is best to use when assumptions are violated (Tabachnick & Fidell, 2013).

Research Question One: What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

The researcher conducted a four-step multiple hierarchical regression to determine if the addition of type of PTE, factors of resilience and college engagement factors improved the prediction of college student adjustment over gender, race/ethnicity, previous counseling experience, and financial distress. The dependent variable was the distress index on the CCAPS. Gender, race/ethnicity, previous counseling experience and past and current financial distress were entered into step one of the model as controlling factors. Type of PTE was entered into step two of the model, familial support, peer support, and religious/spiritual engagement were entered into step three, and the college engagement factors, club involvement and housing were entered into step four. See Table 8 for a summary of the regression model and Table 9 for details on the full regression model.

Table 8

Regression Analysis Summary Research Question One for Demographic Variables, Type of PTE and Factors of Resilience Predicting Adjustment (N= 6383)

Model	R	R ²	Adj R ²	Std. Error	Change Statistics				
					ΔR^2	ΔF	df1	df2	Sig ΔF
1	.23	.06	.05	.80	.06	73.72	5	6378	.00

2	.26	.07	.07	.80	.01	75.30	1	6377	.00
3	.36	.12	.13	.78	.06	116.73	3	6374	.00
4	.38	.13	.13	.77	.01	43.41	2	6372	.00

Note. Model 1 represents the variables race/ethnicity, gender, previous counseling experiences, and past and present financial distress Model 2 includes the Model 1 variables, and PTE type. Model 3 includes all previous variables and resiliency factors. Model 4 includes all previous variables and campus engagement factors

The results of the regression indicate that the demographic variables in Model 1 accounted for a significant 6% of the variance in adjustment, $F(5, 6378) = 73.72, p < .001$. This was a small effect size. Gender and race/ethnicity were not significant predictors of adjustment in the first step of the model. The addition of PTE type to demographic variables (Model 2) led to a statistically significant increase in R^2 of .02, $F(1, 6377) = 74.70, p < .001$ and explained 7% of the variance in adjustment, which is a small effect size. Race/ethnicity and gender were not significant predictors in this stage of the model ($p > .05$).

The addition of factors of resilience, specifically familial and peer support, and religion and spirituality (Model 3) also led to a statistically significant increase in R^2 of .06, $F(3, 6374) = 105.01, p < .001$ and accounted for 12% of the variance in adjustment, which is a small effect size. The addition of factors of resilience led to gender and race/ethnicity being significant predictors in the model ($p < .05$)

The full model (Model 4) of demographic factors, type of PTE, factors of resilience, and college engagement factors accounted for a significant 13% of the variance in adjustment, $F(2, 6372) = 94.12, p < .001$, which is a small effect size. More specifically, the final model indicates that type of PTE is a significant, positive predictor of adjustment ($\beta = .08, p < .001$), with interpersonal PTEs resulting in higher difficulties with adjustment; however, the effect size is small. Factors of resilience, specifically familial support ($\beta = -.12, p < .001$), peer support ($\beta = -$

.18, $p < .001$), spiritual importance ($\beta = -.06$, $p < .05$) the college engagement factors club involvement ($\beta = -.09$, $p < .001$) and living on campus ($\beta = -.05$, $p < .001$) were significant negative predictors of adjustment, with small effect sizes. This indicates that the presence of social support, spiritual/religious engagement, increased club involvement, and living on campus are all associated with fewer adjustment difficulties when accounting for demographic variables.

In regards to demographic variables, previous counseling episodes was associated with higher levels of adjustment concerns ($\beta = .13$, $p < .001$), as was previous financial distress ($\beta = .04$, $p < .001$) and current financial distress ($\beta = .09$, $p < .001$). Lastly, being female was associated with higher levels of adjustment concerns ($\beta = .03$, $p < .05$) and identifying as White, as compared to a racial/ethnic minority, was associated with higher adjustment concerns ($\beta = .03$, $p < .05$). The effects of each of these associations were small.

Table 9

Regression Analysis Research Question One for Demographic Variables, Type of PTE and Factors of Resilience Predicting Adjustment

Variable	Distress Index							
	Model 1		Model 2		Model 3		Model 4	
	B	β	B	β	B	β	B	β
Constant	1.49**	--	1.39**	--	1.75**	--	1.88**	--
Counseling	.25**	.15**	.23**	.14**	.22**	.13**	.22**	.14**
Gender	.04	.02	.02	.01	.06*	.03*	.06*	.03*
Race/Ethnicity	.00*	.00	.01	.02	.05*	.03*	.05*	.03*
Financial Distress Current	.27**	.13**	.25**	.12**	.20**	.10**	.18**	.09**
Financial Distress Past	.12**	.07**	.10**	.06**	.08**	.05**	.07**	.04**

Type of PTE	--	--	.20**	.11**	.14**	.08**	.15**	.08**
Family Support Agree	--	--	--	--	-.20**	-.12**	-.20**	-.12**
Peer Support Agree	--	--	--	--	-.31**	-.19**	-.30**	-.18**
Spiritual Importance	--	--	--	--	-.08**	-.05**	-.06*	-.03*
Live on Campus or Not	--	--	--	--	--	--	-.08**	-.05**
Club Involvement	--	--	--	--	--	--	-.14**	-.09**
R^2	.06**	.07**	.11**	.13**				
F	73.72**	74.70**	105.01**	94.12**				
ΔR^2	.06**	.01**	.05**	.01**				
ΔF	73.72**	75.30**	116.73**	43.41**				

Note. * = ($p \leq .05$); ** = ($p < .001$)

Research Question Two: What is the relationship between type and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment seeking college students when adjusting for demographic variables?

The researcher conducted a four-step multiple hierarchical regression to determine if the addition of type of PTE, accumulation of PTE, factors of resilience and college engagement factors improved the prediction of college student adjustment over gender, race/ethnicity, previous counseling experience, and financial distress. The dependent variable for this analysis was the distress index on the CCAPS. Gender, race/ethnicity, previous counseling experience and past and current financial distress were entered into step one of the model as controlling variables. Type of PTE and accumulation of PTE were entered into step two of the model, factors of resilience variables were entered into step three, and college engagement factors, were

entered into step four. See Table 10 for a summary of the regression model and Table 11 for details on the full regression model.

Table 10

Regression Analysis Summary for Research Question Two of Demographic Variables, Type of PTE, Accumulation of PTEs and Factors of Resilience Predicting Adjustment (N= 6383)

Model	R	R ²	Adj R ²	Std. Error	Change Statistics				
					ΔR^2	ΔF	df1	df2	Sig ΔF
1	.23	.06	.05	.80	.06	73.72	5	6378	.00
2	.28	.07	.08	.79	.02	78.76	2	6376	.00
3	.37	.14	.14	.77	.07	148.53	3	6373	.00
4	.38	.15	.15	.76	.01	37.18	2	6368	.00

Note. Model 1 represents the variables race/ethnicity, gender, previous counseling experiences, and past and present financial distress Model 2 includes the Model 1 variables, and PTE type and accumulation. Model 3 includes all previous variables and resiliency factors. Model 4 includes all previous variables and campus engagement factors

The results of the regression indicate that the demographic variables in Model 1 accounted for a significant 6% of the variance in adjustment, $F(5, 6378) = 73.72, p < .001$. This was a small effect size. Once again, gender and race/ethnicity were not significant predictors of adjustment. The addition of PTE type and accumulation of PTEs to demographic variables (Model 2) led to a statistically significant increase in R^2 of .02, $F(2, 6376) = 76.45, p < .001$ and explained 8% of the variance in adjustment. However, this was a small effect size.

The addition of factors of resilience, specifically familial and peer support, and religion/spirituality (Model 3) also led to a statistically significant increase in R^2 of .07, $F(3, 6373) = 148.53, p < .001$ and accounted for 14% of the variance in adjustment, which is a small effect size. However, the addition of factors of resilience led to race/ethnicity ($\beta = .03, p < .05$) and gender ($\beta = .03, p < .05$) being significant predictors in the model.

The full model (Model 4) of demographic factors, type of PTE, accumulation of PTEs, factors of resilience, and college engagement factors accounted for a significant 15% of the variance in adjustment, $F(2, 6368) = 37.68, p < .001$. More specifically, the final model indicates that type of PTE is a significant, positive predictor of adjustment ($\beta = .05, p < .001$).

Experiencing an interpersonal PTE was associated with more adjustment difficulties; however, the effect size is small. Accumulation of PTEs was also a positive predictor of adjustment ($\beta = .10, p < .001$) with a small effect size. This suggests that as the number of PTEs experienced increased, so did adjustment concerns. Familial support ($\beta = -.11, p < .001$), peer support ($\beta = -.18, p < .001$), religious/spiritual importance ($\beta = -.04, p < .001$), club involvement ($\beta = -.08, p < .001$) and living on campus ($\beta = -.05, p < .001$) were significant negative predictors of adjustment, with small effect sizes. This indicates that the presence of social support, spiritual/religious engagement, increased club involvement, and living on campus are all associated with fewer adjustment difficulties when accounting for demographic variables.

In regards to demographic variables, previous counseling episodes was associated with higher levels of adjustment concerns ($\beta = .13, p < .01$), as was previous financial distress ($\beta = .04, p < .01$) and current financial distress ($\beta = .08, p < .01$). Lastly, being female was associated with higher levels of adjustment concerns ($\beta = .04, p < .05$) and identifying as White, as compared to a racial/ethnic minority was associated with higher adjustment concerns ($\beta = .04, p < .05$). The effects of each of these associations were small.

Table 11

Regression Analysis Summary Demographic Variables, Type of PTE, Accumulation of PTEs and Factors of Resilience Predicting Adjustment

Distress Index			
Model 1	Model 2	Model 3	Model 4

Variable	B	β	B	β	B	β	B	β
Constant	1.49**	--	1.29**	--	1.66**	--	1.79**	--
Counseling	.25**	.15**	.21**	.13**	.21**	.13**	.21**	.13**
Gender	.04	.02	.03	.01	.06*	.04*	.06*	.04*
Race/Ethnicity	.00	.00	.03	.01	.06*	.03*	.05*	.04*
Financial Distress Current	.27**	.13**	.24**	.12**	.19**	.09**	.17**	.08**
Financial Distress Past	.12**	.02**	.08**	.05**	.06*	.04*	.06*	.04*
Type of PTE	--	--	.13**	.07**	.09**	.05**	.09**	.05**
Accumulation PTE	--	--	.09**	.12**	.08**	.10**	.08**	.10**
Family Support Agree	--	--	--	--	-.19**	-.12**	-.19**	-.11**
Peer Support Agree	--	--	--	--	-.31**	-.19**	-.30**	-.18**
Spiritual Importance	--	--	--	--	-.08*	-.05*	-.06*	-.04*
Live on Campus or Not	--	--	--	--	--	--	-.08**	-.05**
Club Involvement	--	--	--	--	--	--	-.13**	-.08**
R^2	.06**		.07**		.14**		.15**	
F	73.72**		76.45**		101.78**		92.08**	
ΔR^2	.06**		.02**		.06**		.01**	
ΔF	73.72**		78.75**		148.53**		37.68**	

Note. * = ($p \leq .05$); ** = ($p < .001$).

Research Question Three: To what extent does recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation?

The researcher conducted a two-way between subjects multivariate analysis of covariance (MANCOVA) with two independent variables – type of PTE and recency of PTE – and five dependent variables – family support, peer support, club involvement, religious/spiritual importance, and the distress index on the CCAPS. Adjustments were made for one covariate: accumulation of PTEs. Table 12 depicts the descriptive statistics for the dependent variables, grouped by each level of the independent variables.

Table 12

Descriptive Statistics for PTE Type and Recency Grouped by Dependent Variables

	<i>Type of PTE</i>				<i>Recency</i>			
	Interpersonal(n=1855)		Noninterpersonal (n=731)		Before College (n=1292)		During College (n=1294)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Club Involvement	.66	.53	.69	.51	.66	.53	.69	.52
Familial Support	.72	.49	.95	.49	.76	.49	.82	.50
Peer Support	.79	.46	.89	.45	.83	.45	.78	.46
Religious/Spiritual Importance	.73	.44	.75	.44	.73	.45	.74	.46
Distress Index	2.09	.82	1.77	.80	2.05	.80	1.94	.84

Note. $N=2586$; Higher scores on the distress index are associated with increased levels of distress/adjustment concern; higher scores for the remaining variables indicate increased involvement and/or agreement regarding perceived support and importance.

The results of the two-way MANCOVA indicated that there was not a significant interaction between type of PTE and recency of PTE on the combined dependent variables when controlling for the accumulation of PTEs, $F(5, 2577) = .62, p = .69, V = .85, \text{partial } \eta^2 = .00$.

There was not a statistically significant main effect for recency (pre vs. at college) of PTE on the combined dependent variables when controlling for accumulation of PTEs, $F(5, 2577) = 1.87, p = .10, V = .99, \text{partial } \eta^2 = .00$. There was a statistically significant main effect for type of PTE on the combined dependent variables when controlling for accumulation of PTEs, $F(5, 2577) = 15.01, p < .001, V = .97, \text{partial } \eta^2 = .03$, with a small effect size. The results of the two-way MANCOVA are presented in Table 13

Table 13

Two Way MANCOVA Table

	Pillai's Trace (V)	F	Hypothesis df	Error df	Sig.	partial η^2
Intercept	.85	2911.38	5	2577	.00	.85
Recency	.99	1.87	5	2577	.10	.00
PTE Type	.97	15.01	5	2577	.00	.03
TypeXRecency	.99	.62	5	2577	.69	.00
Accumulation	.97	13.64	5	2577	.00	.03

Note. Dependent variables are distress index, club involvement, familial support, peer support, and religious/spiritual engagement; $N=2586$

The researcher conducted an analysis of simple main effects with a Bonferonni adjustment. When controlling for the accumulation of PTEs, there was a statistically significant main effect for family support ($F(1, 2581) = 48.68, p < .001, \text{partial } \eta^2 = .02$), peer support ($F(1, 2581) = 10.29, p = .001, \text{partial } \eta^2 = .00$) and adjustment ($F(1, 2581) = 40.77, p < .001, \text{partial } \eta^2 = .02$), but not for club involvement ($F(1, 2581) = .13, p = .126, \text{partial } \eta^2 = .00$) and religion/spirituality ($F(1, 2581) = 1.31, p = .253, \text{partial } \eta^2 = .02$). The effects for each variable were small in size. The results are presented in Table 14.

Table 14

Summary of Follow-up ANCOVAs: Type of PTE.

	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	Partial η^2
Club Involvement	.04	1	.04	.13	.72	.00
Family Support	11.31	1	11.31	48.68	.00	.02
Peer Support	2.17	1	2.17	10.29	.00	.00
Religious/Spiritual Importance	.25	1	.25	1.31	.25	.00
Distress Index	26.18	1	26.18	40.77	.00	.02

Note. Computed using $\alpha = .05$

When controlling for the accumulation of PTEs, there was a statistically significant mean difference between interpersonal and noninterpersonal forms of PTEs, with noninterpersonal forms of PTEs resulting in higher perceived peer support ($M_{diff} = 0.07, p = .001$) and familial support ($M_{diff} = 0.16, p < .001$) when compared to interpersonal PTEs. Conversely, interpersonal forms of PTEs ($M_{diff} = .241, p < .001$) were associated with increased adjustment difficulties when compared to noninterpersonal PTEs. As was previously stated, the effects of these relationships are small.

Summary

The results of the three research questions provide varying levels of support for the research question hypotheses. The first research question explored the relationship between the type of PTE, factors of resilience and college student adjustment when adjusting for demographic variables. The second research question explored the relationship between type of PTE, accumulation of PTEs, factors of resilience and college student adjustment when controlling for demographic variables. The third research question investigated the impacts of recency of PTE and type of PTE on college student adjustment and factors of resilience when controlling for accumulation.

CHAPTER FIVE

DISCUSSION

Chapter one provided an overview of the study including a statement of the problem, the purpose and significance of the research, and study specific terms and definitions. Chapter two provided a background of the topic through a review of the literature regarding college student adjustment, exposure to PTEs and impacts on adjustment, and factors of resilience. Chapter three described the methodology utilized in the study including the research design, data collection and data analysis procedures. Chapter four presented the results of the study. Chapter five will provide a summary of the study conducted in addition to discussing the findings, relevance of the findings to the current literature, and implications of the current study. Chapter five will conclude with a discussion regarding limitations and implications for future research.

Review of Study

The aim of this study was to investigate the relationship between exposure to PTEs, factors of resilience, and college student adjustment in a national sample of treatment-seeking college students. The purpose of this study was to add to the existing body of literature regarding college student adjustment by differentiating between the impact of differing types and accumulations of trauma while highlighting underlying factors of resilience that may be predictive of adjustment. Further, this study controlled for key demographic variables including gender, race/ethnicity, previous counseling experience and financial distress, which have been found to be predictive of PTE exposure.

The researcher conducted this study using an archival data set comprised of data collected through the Center for Collegiate Mental Health (CCMH), which compiles mental health and demographic information on treatment-seeking college from contributing counseling

centers across the United States. The final data set included 6,735 participants, aged 18-24. Participants reported if they had experienced a PTE, the PTE experienced and the number of events experienced. Participants reported on factors of resilience including peer and familial support, campus engagement, and religious/spiritual importance. The researcher conducted two hierarchical regressions and a two-way MANCOVA to address the following questions and hypotheses:

Question One

What is the relationship between varying types of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis One

Type of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Two

What is the relationship between type and accumulation of trauma, factors of resilience, and college student adjustment in a sample of treatment-seeking college students when adjusting for demographic variables?

Hypothesis Two

Type and accumulation of trauma and factors of resilience will predict ($p < .05$) college student adjustment when adjusting for demographic variables.

Question Three

To what extent does recency of traumatic event (pre-college vs. at college) and type of event impact college student adjustment and resiliency factors when controlling for accumulation of events?

Hypothesis Three

There will be significant difference in college student adjustment and resiliency factors ($p < .05$) based on type of event and recency of event when controlling for accumulation of events.

Major Findings

The results of this study provide varying levels of support for the research question hypotheses and contribute to the large body of literature regarding PTE exposure, factors of resilience, and college student adjustment. The first two research question hypotheses were supported while the third research question hypothesis was partially supported.

Research Question One

A hierarchical linear regression was conducted to investigate the relationship between the type of PTE, factors of resilience, and college student adjustment when controlling for demographic variables. The full hierarchical regression model was significant, indicating that type of PTE, peer and familial support, religious/spiritual engagement, campus engagement factors, and demographic variables (gender, race/ethnicity, previous counseling experience, and financial distress) were predictive of student adjustment, thus, supporting the research question hypothesis.

Interpersonal forms of PTEs were predictive of higher levels of distress than were noninterpersonal forms of PTEs. Additionally, agreement that support was received from peers and family, and agreement regarding religious and spiritual importance, were negatively predictive of distress. These results indicate that higher levels of peer and familial support and

religious and spiritual importance are associated with lower levels of distress. Conversely, lack of familial and peer support was associated with slightly higher levels of distress. Campus engagement factors were also predictive of adjustment. As involvement in extracurricular activities increased, levels of distress decreased. Additionally, living on campus was predictive of lower levels of distress than was living off campus.

Gender and race/ethnicity were controlling variables in this model. Both gender and race/ethnicity were not predictive of adjustment difficulties in the first two steps of the model in the presence of other demographic variables and PTE exposure. After the introduction of factors of resilience, both gender and race/ethnicity became significantly and positively predictive of adjustment difficulties. Identifying as female as opposed to not female and identifying as White as opposed to a racial/ethnic minority were both predictive of higher adjustment difficulties when factors of resilience were introduced.

Research Question Two

A hierarchical linear regression was conducted to investigate the relationship between type of PTE, accumulation of PTEs, factors of resilience, and college student adjustment when controlling for demographic variables. In support of the research question hypothesis, the full hierarchical regression model was significant, indicating that type of PTE, accumulation of PTEs, factors of resilience, and demographic variables are significantly and positively predictive college student adjustment. Interpersonal forms of PTEs were associated with higher levels of distress than were non-interpersonal forms of PTEs. As the accumulation of PTEs increased, so did levels of distress, indicating that multiple PTEs are predictive of higher levels of distress. Similar to research question one, the presence of factors of resilience was negatively predictive

of distress. Increased familial and peer support, higher levels of extracurricular activities, living on campus and religious/spiritual importance were associated with lower levels of distress.

Research Question Three

A two-way MANCOVA was conducted to investigate the impacts of recency of event and type of event on college student adjustment, family support, peer support, club involvement and religious/spiritual importance while adjusting for the accumulation of PTEs. The results of the two-way MANCOVA indicated that the interaction between type of PTE and recency of event were not significantly predictive of adjustment concerns and factors of resilience, thus rejecting the full research hypothesis. The main effect of recency, or proximity to the event, was also not predictive of adjustment and factors of resilience. However, type of PTE was significantly predictive of adjustment and factors of resilience when controlling for accumulation of PTEs. This indicates that there is a significant difference in adjustment and factors of resilience based on type of PTE; however, there is not a significant difference based on proximity to the event.

Follow-up analyses of main effects revealed that type of PTE was significantly predictive of family support, peer support, and levels of distress. When compared to noninterpersonal PTEs, interpersonal forms of PTEs were associated with slightly lower levels of perceived peer support and slightly lower levels of perceived familial support. Conversely, interpersonal PTEs were associated with increased adjustment difficulties when compared to noninterpersonal forms of PTEs. However, type of PTE was not significantly predictive of club involvement on campus or religious/spiritual importance.

Integrating the Results

There are several findings in this study, some of which support previous literature, some of which contradict previous literature, and some of which were surprising. The major findings of the study, both significant and nonsignificant, will be discussed next.

Confirmatory Findings

This research study investigated a composite of interpersonal and noninterpersonal forms of PTEs to determine their impact on adjustment in relation to factors of resilience. Previous studies have investigated the impacts of specific types of interpersonal PTEs, specifically, childhood physical, emotional, and sexual abuse, or sexual assault in adulthood (Arata et al., 2005; Brewin et al., 2000, Duncan, 2000; Hetzel-Riggin & Roby, 2013; Mersky et al., 2013). These types of PTEs are often compared to one or two specific noninterpersonal PTEs (i.e. sudden or unexpected loss of a loved one, natural disasters) (Hetzel-Riggin & Roby, 2013; Krupnick et al., 2004) This study investigated the impact of any event that was perpetrated or caused by another individual, beyond childhood abuse and sexual assault. Additionally, the type of noninterpersonal PTEs was expanded to include events beyond traumatic bereavement to include events such as being diagnosed with a life-threatening illness.

Interpersonal forms of PTEs were more predictive of adjustment concerns than were noninterpersonal forms of PTE, which appears to be consistent with previous literature (Arata et al., 2005; Brewin et al., 2000, Duncan, 2000; Hetzel-Riggin & Roby, 2013). This finding adds to the current body of literature by expanding the types of interpersonal PTEs that were investigated and comparing them to a wider number of noninterpersonal PTEs (Hetzel-Riggin & Roby, 2013; Krupnick et al., 2004). The results seem to confirm the notion that interpersonal forms of PTEs result in higher difficulties with adjustment, which may be due to feelings of betrayal, a violation

of a sense of safety, or an increase in emotion-regulation difficulties (Hetzl-Riggin & Roby, 2013).

Accumulation of PTEs was also consistently predictive of adjustment difficulties with more events experienced predicting increased levels of distress. This finding lends additional support to the extensive body of literature which states that an increase in events experienced is associated with higher levels of distress (Arata et al., 2005; Banyard & Cantor, 2004; Elliot et al., 2009). Longer duration and greater frequency of PTEs consistently predicts subsequent adjustment difficulties, regardless of the type of PTE.

The results indicated that the presence of factors of resilience were associated with slightly fewer adjustment difficulties. The presence of social support, namely familial and peer support, predicted lower levels of distress. This is consistent with previous research investigating the impacts of social support on levels of distress following PTE exposure (Campbell & Riggs, 2015; Frazier et al., 2011; Galatzer-Levy, et al., 2012) and research suggesting that increasing levels of familial support and strong caregiver relationships are associated with lower levels of distress following PTE exposure (Edwards et al., 2016; Collishaw et al., 2007; Jenkins et al., 2013, Maples et al., 2014). Similarly, the findings regarding the presence of peer support underlines the notion that the perceived quality of peer support is associated with fewer adjustment difficulties following PTE exposure (Banyard & Cantor, 2004; Collishaw et al., 2007; Grasso et al., 2012; Hartley, 2010; Mukherjee & Suresh, 2009). Social support may provide guidance that assists individuals in the emotional management and processing of PTEs.

Religious and spiritual importance was associated with lower levels of distress, which is consistent with previous literature (Perera & Frazier, 2013; Thomas & Savoy, 2014). However, other studies reported that religious and spiritual engagement is associated with higher levels of

distress. The contradictory findings seem to be related to how individuals utilize their religion or spirituality to cope (Burriss et al., 2009). Individuals may utilize their religiosity and spirituality to make meaning and cope following exposure to PTE or they may find that their belief in a higher power is strengthened following PTE exposure. The findings in this study may lend support to the notion that it is the way individuals utilize their religion and spirituality to cope that impacts adjustment, and not necessarily its importance, or lack thereof in an individual's life (Burriss et al., 2009).

Lastly, increasing levels of club involvement and living on campus was associated with fewer adjustment difficulties. This lends additional support to the body of literature stating that active involvement on campus and living on campus influence student adjustment (Pascarella & Terenzini, 1995; Tinto, 1987, 1993). Involvement in extracurricular activities and living on campus may be instrumental factors in integrating students into the social structure on campus, which is a necessary component of adjustment.

Contradictory Findings

The results of the study suggest that type of PTE may not be predictive of campus engagement and religious/spiritual importance; however, it is predictive of agreement regarding peer and familial support. Interpersonal forms of PTEs were associated with lower levels of agreement regarding familial and peer support when compared to noninterpersonal forms of PTEs. Previous researchers have suggested that PTE exposure is associated with lower levels of perceived support (Grasso et al., 2012; Hofman et al., 2016), while others concluded that PTE exposure was associated with higher levels of support (Anders et al., 2014; Buchanan, 2012).

The findings of this study seem to suggest that type of PTEs may be a contributing factor in the debate, with interpersonal PTEs resulting in slightly lower levels of agreement regarding

familial and peer support. Interpersonal forms of PTEs may result in more severe psychological and physiological difficulties than other forms of trauma (Hetzel-Riggin & Roby, 2013; Krupnick et al., 2004). This finding may also lend support to the notion that individuals' sense of safety and trust in others is violated following interpersonal PTE exposure which may result in lower levels of perceived support (Hetzel-Riggin & Roby, 2013). Additionally, if the event was perpetrated by someone known to the individual, then it seems warranted that individuals may perceive lower levels of support. For individuals who experienced noninterpersonal PTEs, it is possible that social support networks were present prior to PTE exposure and the transition into college. Some individuals may have an increased reliance on families and peer following PTE exposure, which may strengthen or reinforce existing resources (Grasso et al., 2012). Lastly, this finding may lend support to the notion that the ways in which individuals utilize social support are more predictive than the presence of support (Banyard & Cantor, 2004).

Type of PTE was not significantly predictive of club involvement on campus. This finding is somewhat surprising and contradicts previous literature which suggests that PTE exposure was associated with higher overall campus engagement (Hofman et al., 2016). The lack of significance in this study may be related to the fact that the researcher did not use a true measure of campus engagement. This may also be related to the composite form of PTEs utilized in the sample. Additionally, this study investigated the impacts of specific types of PTEs rather than overall exposure. Active engagement on campus may be an instrumental factor in facilitating social connections on campus and there may be a reciprocal process between campus engagement and peer support. If students are already reporting decreased social support following PTE exposure, then it is possible that club involvement may not be impacted.

Surprising Findings

There was no interaction between type of event and recency of event, on factors of resilience and adjustment, nor was there a main effect for recency of event. This is surprising given the notion that events occurring at college would result in higher levels of distress (Anders et al., 2014; Frazier et al., 2011). The lack of significance in this study may be due to the researcher's inability to establish a baseline level of distress or evaluate pre-exposure variables that may have influenced the individual's response to a more recent event. The lack of significance may also be due to how individuals subjectively perceived events (Brewin et al., 2000; Collishaw et al., 2007; Frazier et al., 2011). If individuals did not perceive the events occurring recently as more severe, then it may be that it did not have a significant impact on factors of resilience or adjustment. Lastly, this lack of significance may be due to maturation. If most individuals experience temporary disruptions in functioning following PTE exposure, then it is possible that enough time had passed so students in this sample were no longer exhibiting symptoms of distress related to PTE exposure.

Gender was not predictive of adjustment until factors of resilience were introduced into the model. Being female was associated with higher levels of adjustment concerns. The initial nonsignificance of the gender variable seems to support previous studies noting that gender differences in PTE exposure and associated distress were reduced once proximity of the event and subjective severity of the event was considered (Brewin et al., 2001; Hetzel-Riggin & Roby, 2013; Read et al., 2011). The results of this study seem to indicate that gender may be a moderating factor in how factors of resilience operate. Individuals who identify as female may utilize support systems differently than individuals who do not identify as female. It is possible that these differences are related to the ways in which individuals who identify as female and

those who do not are socialized to rely on and perceive social support systems. As such, the presence of similar factors of resilience may result in differential outcomes.

Additionally, race/ethnicity was not a significant predictor of distress until factors of resilience were introduced into the model. Individuals who identified as White reported higher levels of distress than those who did not. This finding is surprising as some authors have found that there is not a significant difference in regards to prevalence and expression of mental health concerns following PTE exposure, despite differences in rates of exposure and the types of PTEs experienced (Boyraz et al., 2015; Hatch & Dohrenwend, 2007; Read et al., 2011). The results of this study seem to indicate that race/ethnicity may be an additional moderating factor in how factors of resilience operate. It should be noted that the measure used in this study, CCAPS-62, was normed on a majority White (67.2%) sample and the cultural validity of the measure has yet to be demonstrated (Locke et al., 2011).

Implications

The prevalence of PTE exposure, the consistent predictive properties of type and accumulation of PTEs, and the protective properties of factors of resilience have implications for conceptualizing and working with college students.

Implications for Theory

The structure of adjustment is classified into four domains: academic, social, personal-emotional, and institutional and students may adjust well on one domain but not others (Baker & Siryk, 1984). There is relative consensus among researchers regarding the domains of adjustment; however, there is little consensus regarding antecedent factors and demographic variables that may be predictive of adjustment difficulties in college (Credé & Niehorster, 2011). Many researchers focus on demographic (i.e. age, gender, race/ethnicity, sexual orientation,

nationality, ability status, etc.), trait (i.e. coping styles), and prior achievement to understand what predicts adjustment and what does not. While trait factors are moderately predictive of adjustment and subsequent retention, demographic and academic variables are weakly predictive of adjustment.

This study lends support to the idea of including antecedent factors beyond trait, demographic, and academic variables that may impact adjustment. Specifically, the inclusion of adverse experiences may provide a more comprehensive understanding of how these variables interact once an individual enters college (Credé & Niehorster, 2011). Exposure to PTEs and type of PTE may have impacts on student distress; however, there are protective factors including social support, religion/spirituality, and campus engagement that may insulate the effects of PTEs upon entrance into college.

As such, including potential buffering factors that may insulate subsequent distress after students have been exposed to PTEs is also important for predicting student adjustment (Credé & Niehorster, 2011). The results of this study suggest that the inclusion of antecedent experiences in theories of adjustment may provide a more comprehensive understanding of how and why some students adjust and others do not. Additionally, inclusion of these factors may provide additional insight into the ways in which variables interact to predict adjustment and retention, rather than focusing specifically on whether students' degree of adjustment.

Implications for College Counseling Directors and Institutional Leaders

The results of this study have implications for college counseling directors and institutional directors. This study indicated that exposure to specific types of PTEs and accumulations of PTEs are associated with increased levels of distress; however, there are factors

that may mitigate that distress including living on campus, involvement in extracurricular activities, social support, and religious/spiritual engagement.

It may be important that institutional leaders and college counseling directors identify ways to best identify and target student at risk for stressful transitions. While most universities gather demographic information on students, it is not feasible or ethical to ask students to disclose exposure to PTEs. One method for identifying and targeting students at risk for stressful transitions is to implement a “bottom-up” approach. Students are more likely to disclose information to people whom they have frequent interaction with, including faculty members, mentors, advisors, or residence hall assistances and directors (Schreiner, Noel, Anderson, & Cantwell, 2011).

Positive interactions with faculty and staff assist in shaping students’ relationships to their campus and may influence social integration (Schreiner et al., 2011; Tinto, 1975). Institutional leaders and college counseling directors can work collaboratively to provide continuing education to faculty and staff who interact with students frequently, and may be more likely to receive information regarding PTE exposure and associated difficulties with college. Training faculty and staff on effective listening and supportive skills and providing them with information to connect students to additional resources may be instrumental in assisting at-risk students who might not otherwise be identified or seek out services (Banyard & Cantor, 2004). Additionally, this highlights the importance of providing faculty and staff with resources they can utilize if students disclose difficulties regarding PTE exposure.

This study also underlines the importance of factors of resilience in adjusting to college following PTE exposure, specifically social support, campus engagement, and religion/spirituality. Institutional leaders and college counseling directors can allocate funding

towards campus programming that fosters a sense of community and campus support to increase student resilience, such as peer counseling and mentoring programs (Banyard & Cantor, 2004). Such broad-based intervention will target students regardless of PTE exposure, and may facilitate the process of building peer connections on campus; thus, providing a buffering impact in the event of PTE exposure. It may be especially important to target students who are unable to live on campus or get involved in extracurricular activities, namely, working students, online students, part-time students, and commuter students (Melendez, 2016). One such method for doing so can be to require seminar courses for all students in their first year at the college (Boyraz et al., 2013). These seminars might encourage faculty-student interaction and interactions amongst peers with similar interests. In regards to religion/spirituality, it is important to make students aware of their options on campus or near campus to practice their faith or spirituality and connect with others through this practice.

Lastly, as familial support was predictive of lower levels of distress following PTE exposure, it may be beneficial for institutional leaders to provide programming or outreach for parents and guardians during student orientation. There is a large body of research discussing the importance of family support in the transition to college (Collishaw et al., 2007; Edwards et al., 2016; Hartley, 2010; Jenkins et al., 2016; Maples et al., 2014). Providing family members with information on the transition to college and ways to support the student may increase family understanding of the issues many college students face, which, may in turn bolster social support and help ease the transition into a new environment.

Implications for College Counseling Professionals

The results regarding the impacts of type and accumulation of PTEs and buffering impacts of factors of resilience suggest that this may be an area of importance for college

counseling professionals. Young adulthood and the entrance into college is a significant transitional period which may serve as a link between early adverse experiences and subsequent long-term mental health and physical health issues (Mersky et al., 2013; Read et al., 2014). College is a time-period during which potential risk factors can be identified and interventions can focus on bolstering factors of resilience to insulate or mitigate the impacts of PTEs.

College counseling professionals increasingly focus on outreach and prevention, with the goal of disseminating information to students who might not otherwise seek out mental health services (Kraft, 2009). In line with this focus, college counseling professionals can implement university based outreach efforts periodically throughout the semester that specifically target students who have experienced a PTE and concentrates on the most common types of PTEs experienced such as sexual assault or grief and loss (Read et al., 2011). Additionally, outreach efforts can focus on increasing student resilience by educating students on the importance of social support and by teaching students additional coping mechanisms.

While not every student who has experienced a PTE will seek out services specifically related to the event, this present study highlights the importance of assessing for previous PTE exposure as a possible underlying and contributing factor of current distress. College counseling professionals can make it routine to assess for trauma history, specifically type and accumulation of traumas, to have a more complete understanding of students who may potentially be at risk. It is important and necessary that college counseling professionals seek out training to recognize underlying symptoms of trauma that may not manifest as PTSD and may be impacting current functioning, even if it is not the focus of treatment (Read et al., 2011).

Further, it important that college counseling professionals understand factors of resilience and how they can mitigate the impacts of PTEs to influence long term health and mental health

outcomes. Intentional assessment of factors of resilience can assist college counseling professionals in providing targeted interventions that focus on establishing and building resilience to potentially offset the risk associated with PTEs (Edwards et al., 2016; Mersky et al., 2013; Read et al., 2011).

Implications for Students

College students likely already possess and utilize factors of resilience that insulate the development or exacerbation of mental health concerns following PTE exposure (Banyard & Cantor, 2004; Burriss et al., 2009; Read et al., 2011). This is especially likely considering the relatively small number of individuals who report long-term issues relative to the number of people who report experiencing a PTE. The results of this study emphasize the importance of seeking out support following PTE exposure and utilizing existing social structures to cope, if they are viewed as supportive. This seems to be especially important for students who have experienced an interpersonal PTE. When students perceive that they have supportive social networks, they are less likely to report adjustment difficulties (Edwards et al., 2016; Maples et al., 2014).

The results of this study may also encourage students to seek out social networks on campus. Whether it is connecting to a faith-based campus organization, an athletic organization, or a special interest campus group, active involvement in campus activities may assist students with integrating into the social structure on campus. The results of this study may also encourage students to live on campus, if possible, as living on campus was associated with lower levels of distress.

Limitations and Implications for Future Research

There are many limitations to this study, some of which were discussed in chapter three, that should be considered when interpreting the results. These limitations, in conjunction with the findings of the study, assist in informing implications for future research. First, this sample was comprised solely of treatment-seeking college students at four-year institutions, as such, the results may not be generalizable to students who do not seek treatment and students who attend two-year institutions. This study also focused on students between the ages of 18 and 24, did not include international students, and was primarily comprised of female identifying students (69.1%) which limit the generalizability of the findings to diverse samples of students and to individuals in this age frame who did not attend college.

Although this study investigated factors of resilience and student adjustment, the researcher did not utilize true measures of resilience or adjustment and instead utilized demographic questions and referent measures of adjustment; thus, limiting the interpretability of the results. Further, this study utilized an archival data set which limited the researcher's ability to establish a baseline level of distress regarding adjustment or assess for factors of resilience that were present prior to college. Establishing a baseline of functioning before entrance into college and measuring pre-exposure levels of resilience might provide more insight into the interactions between PTE exposures, factors of resilience, and student adjustment. Additionally, resilient functioning and levels of distress following PTE exposure may not be stable over time, and certain factors of resilience may be beneficial at some times and not others (Howell & Miller-Graff, 2014).

Lastly, this study had relatively small effect sizes (.00-.20). Effect sizes are used to determine the relative strength of the relationship between two variables (Field, 2009). For this

study, the effect sizes were used to determine how much of the variance in adjustment was explained by demographic variables, PTE exposure, and factors of resilience. These variables accounted for a small portion of the variance in student adjustment suggesting that the measures utilized did not adequately capture the phenomenon or there may be other factors, such as personality styles, coping strategies and cognitive traits, that more significantly influence student adjustment (Galatzer-Levy et al., 2013). Significance is likely to be found with large sample sizes, as such, results should be interpreted with caution (Field, 2009; Tabachnick & Fidell, 2013).

Considering the results and the limitations of the study, there are many implications for future research. First, future studies should utilize measures specifically assessing resilience, PTE exposure, and adjustment to increase the internal validity of the study and to further determine the strength of the relationships between variables. This will provide a more accurate understanding of the relationships between variables and further clarify how variables interact to influence adjustment. To increase the generalizability of results, this study should be replicated with students who are not in counseling, students at 2-year institutions, and young adults who are not in college. It is possible that factors of resilience operate differently for each of these groups. Replicating this study with multiple populations will provide a more comprehensive understanding of the protective factors that emerge during this unique time-period that reduce the risk of long-term health and mental health difficulties following PTE exposure.

Longitudinal research will also provide a more comprehensive understanding of how PTE exposure and factors of resilience interact over time. This research design will allow researchers to establish a baseline level of distress and to measure factors of resilience that existed prior to college and PTE exposure. Longitudinal research is needed to more clearly

establish causal links between the variables, if any exists. Additionally, as proximity to the event was not significant in this study, assessing over time, in addition to assessing individuals' subjective severity of the event, may provide more information regarding recency of the event and its impacts, if any, on factors of resilience. Lastly, given the findings regarding gender and race/ethnicity, future research should investigate the moderating effects of gender and race/ethnicity on factors of resilience.

Conclusion

This study investigated the relationship between demographic variables, type of PTE, factors of resilience, and college student adjustment in a national sample of treatment seeking college students. The purpose of this study was to add to the existing body of literature regarding college student adjustment by investigating the impacts of antecedent factors that may influence adjustment, namely type and accumulation of PTEs, while also considering protective factors. Findings from this study suggest that interpersonal forms of PTEs and accumulation of PTEs negatively impact adjustment; however, factors of resilience including social support, religious and spiritual importance, and campus engagement may mitigate the impacts PTE exposure. Recency of event did not significantly impact adjustment.

Future research can focus on improving the internal validity of the study and replicating the study with different populations to increase the generalizability of the results. This contribution to the body of literature can help instigate a shift in the way researchers approach trauma exposure in college students. Rather than focusing on deficits, researchers can focus on the large subset of the population that displays factors associated with resilience with the goal of promoting resilience in other college student populations as well. Additionally, implementing

findings from this study may assist in mitigating long-term risks associated with PTE exposure and may assist student with developing coping resource that may facilitate resilient trajectories.

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Appendix A

IRB Determination of Exempt Status



OFFICE OF THE VICE PRESIDENT FOR RESEARCH

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DATE: May 3, 2016

TO: Alan Schwitzer, PhD
FROM: Old Dominion University Education Human Subjects Review Committee

PROJECT TITLE: [898765-1] The Relationship Between Trauma Exposure and College Student Adjustment: Resilience as a Mediator

REFERENCE #:
SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: May 3, 2016

REVIEW CATEGORY: Exemption category # [6.2]

Thank you for your submission of New Project materials for this project. The Old Dominion University Education Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.
If you have any questions, please contact Petros Katsioloudis at (757) 683-5323 or pkatsiol@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Education Human Subjects Review Committee's records.

Appendix B

College Counseling Assessment of Psychological Symptoms – 62

Counseling Center Assessment of Psychological Symptoms — **CCAPS-62**

Page 1 of 2

Name: _____ Date: _____

INSTRUCTIONS: The following statements describe thoughts, feelings, and experiences that people may have. Please indicate how well each statement describes you, **during the past two weeks**, from “not at all like me” (0) to “extremely like me” (4), by marking the correct number. Read each statement carefully, select only one answer per statement, and please do not skip any questions.

	Not at all like me			Extremely like me
1. I get sad or angry when I think of my family	0	1	2	3	4
2. I am shy around others	0	1	2	3	4
3. There are many things I am afraid of	0	1	2	3	4
4. My heart races for no good reason	0	1	2	3	4
5. I feel out of control when I eat	0	1	2	3	4
6. I enjoy my classes	0	1	2	3	4
7. I feel that my family loves me	0	1	2	3	4
8. I feel disconnected from myself	0	1	2	3	4
9. I don't enjoy being around people as much as I used to	0	1	2	3	4
10. I feel isolated and alone	0	1	2	3	4
11. My family gets on my nerves	0	1	2	3	4
12. I lose touch with reality	0	1	2	3	4
13. I think about food more than I would like to	0	1	2	3	4
14. I am anxious that I might have a panic attack while in public	0	1	2	3	4
15. I feel confident that I can succeed academically	0	1	2	3	4
16. I become anxious when I have to speak in front of audiences	0	1	2	3	4
17. I have sleep difficulties	0	1	2	3	4
18. My thoughts are racing	0	1	2	3	4
19. I am satisfied with my body shape	0	1	2	3	4
20. I feel worthless	0	1	2	3	4
21. My family is basically a happy one	0	1	2	3	4
22. I am dissatisfied with my weight	0	1	2	3	4
23. I feel helpless	0	1	2	3	4
24. I use drugs more than I should	0	1	2	3	4
25. I eat too much	0	1	2	3	4
26. I drink alcohol frequently	0	1	2	3	4
27. I have spells of terror or panic	0	1	2	3	4
28. I am enthusiastic about life	0	1	2	3	4
29. When I drink alcohol I can't remember what happened	0	1	2	3	4

	Not at all like me			Extremely like me
30. I feel tense	0	1	2	3	4
31. When I start eating I can't stop	0	1	2	3	4
32. I have difficulty controlling my temper	0	1	2	3	4
33. I am easily frightened or startled	0	1	2	3	4
34. I diet frequently	0	1	2	3	4
35. I make friends easily	0	1	2	3	4
36. I sometimes feel like breaking or smashing things	0	1	2	3	4
37. I have unwanted thoughts I can't control	0	1	2	3	4
38. There is a history of abuse in my family	0	1	2	3	4
39. I experience nightmares or flashbacks	0	1	2	3	4
40. I feel sad all the time	0	1	2	3	4
41. I am concerned that other people do not like me	0	1	2	3	4
42. I wish my family got along better	0	1	2	3	4
43. I get angry easily	0	1	2	3	4
44. I feel uncomfortable around people I don't know	0	1	2	3	4
45. I feel irritable	0	1	2	3	4
46. I have thoughts of ending my life	0	1	2	3	4
47. I feel self conscious around others	0	1	2	3	4
48. I purge to control my weight	0	1	2	3	4
49. I drink more than I should	0	1	2	3	4
50. I enjoy getting drunk	0	1	2	3	4
51. I am not able to concentrate as well as usual	0	1	2	3	4
52. I am afraid I may lose control and act violently	0	1	2	3	4
53. It's hard to stay motivated for my classes	0	1	2	3	4
54. I feel comfortable around other people	0	1	2	3	4
55. I like myself	0	1	2	3	4
56. I have done something I have regretted because of drinking	0	1	2	3	4
57. I frequently get into arguments	0	1	2	3	4
58. I find that I cry frequently	0	1	2	3	4
59. I am unable to keep up with my schoolwork	0	1	2	3	4
60. I have thoughts of hurting others	0	1	2	3	4
61. The less I eat, the better I feel about myself	0	1	2	3	4
62. I feel that I have no one who understands me	0	1	2	3	4

Appendix C

Correlation Table for Research Variables of Interest ($N = 6785$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Distress Index	-												
2. Counseling	.16**	-											
3. Race/Ethnicity	-.01	.11**	-										
4. Gender	.04**	.04**	-.04**	-									
5. Current Financial Distress	.17**	.03*	-.13**	.06**	-								
6. Past Financial Distress	.12**	.01	-.16**	.05**	.38**	-							
7. PTE Type	.15**	.12**	-.08**	.12**	.13**	.17**	-						
8. Cumulative PTE	.18**	.13**	-.10**	-.02	.14**	.17**	.36**	-					
9. Family Support-Agree	-.21**	-.02	.11**	.01	-.15**	-.13**	-.18**	-.17**	-				
10. Peer Support - Agree	-.24**	-.01	.10**	.07**	-.09**	-.07**	-.07**	-.07**	.27**	-			
11. R/S - Important	-.06**	-.03	-.10	.06	-.00	.00	-.00	.00	.06	.02	-		
12. Club Involvement	-.15**	-.04*	.03**	.00**	-.10**	-.08	-.03	-.05	.08	.12**	.12**	-	
13. On Campus or Not	-.08**	.03*	.03*	.02	-.08**	-.02	-.01	-.02*	-.03*	.04	.04**	.14**	-

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

Appendix D

Vitae

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EDUCATION

Old Dominion University, Ph.D. Counselor Education and Supervision (CACREP)	May 2017 Norfolk, VA
Wake Forest University, M.A. Clinical Mental Health Counseling (CACREP)	May 2014 Winston-Salem, NC
The College of William and Mary, B.S Major: Psychology	May 2012 Williamsburg, VA

PROFESSIONAL PROFILE

Old Dominion University <i>Graduate Teaching and Research Assistant</i>	August 2014-May 2017 Norfolk, VA
Christopher Newport University Counseling Center <i>Counselor in Residence</i>	August 2015-May 2017 Newport News, VA
Wake Forest University Counseling Center <i>Counseling Intern</i>	August 2013-May 2014 Winston-Salem, NC

SELECTED PUBLICATIONS

Jolley, A. L., and Indelicato, N. (in press) Positive feminist counseling. In G. McAuliffe (Ed.) *Positive Counseling*. San Diego, CA: Cognella Academic Publishing. Manuscript in press.

SELECTED PRESENTATIONS

Jolley, A. L. (2017, February). *Incorporating feminist theory into counselor education to promote multicultural competence*. Virginia Association of Counselor Education and Supervision Graduate Student Conference, Norfolk, VA.

Jolley, A. L. & Kalkbrenner, M. (2015, March). *Investigating minority students' perceptions of mental health disorders and their impact on the college experience: A pilot study*. William and Mary School of Education Research Symposium, Williamsburg, VA.