DISSERTATION

PREDICTING COLLEGE ADJUSTMENT AND RETENTION: THE ROLE OF PROTECTIVE FACTORS

Submitted by

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ABSTRACT

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THE ROLE OF PROTECTIVE FACTORS

The goal of the present study was to investigate which protective factors contribute to college success, as defined by social, emotional, and academic adjustment. Further, the study aimed to assess whether college adjustment in the first semester predicts academic success, retention, and college satisfaction after two years. In particular, the study assessed how males and females compare regarding the association of protective factors and college adjustment outcomes. One-hundred-sixteen participants completed the study, which included completing a set of surveys at three time points. This study found that individual, familial, and community protective factors predicted successful college adjustment at the beginning and end of the first semester of the first year in college. These findings suggest that qualities within the individual, family, and community support initial college adjustment and adjustment over time. The study found that adjustment at the end of first semester did not predict retention, GPA, or satisfaction with the college experience at the end of second year. It is possible that adjustment during the first semester has less of an impact on long-term success than originally thought. Finally, males and females appeared to have similar adjustment outcomes during the first two years of college. Although males reported greater personal talent, self-esteem, and coping self-efficacy than females, there were no gender differences in adjustment outcomes, which supports the gender similarities hypothesis. Future research should assess whether differences in college adjustment outcomes exist between first-generation and non-first-generation students.

TABLE OF CONTENTS

CHAPTER I

Introduction

Successful adjustment of students to the college environment is of great importance to a range of individuals, including college students striving to succeed, college administrators who are concerned with retention rates, and mental health professionals who help students overcome challenges in emotional, social, and academic adjustment. Student adjustment to college has been a topic of increasing interest since first appearing in academic journals in the 1940s. One of the greatest concerns associated with college adjustment is understanding what factors cause attrition and what factors increase retention. Approximately 40% of college students leave higher education without acquiring a degree (DeBerard, Spielmans, & Julka, 2004; Welles, 2012), and 75% of those students drop out of college within their first two years (DeBerard et al., 2004; Hamilton & Hamilton, 2006; Jamelske, 2009). In addition, first year college students display higher attrition rates compared to more advanced students, with an estimated 20-30% of students dropping out in their first year (DeBerard et al., 2004; National Student Clearinghouse Research Center, 2016). Examining factors that aid students' success in adjusting to college may increase understanding of what is needed to improve retention rates. The purpose of the present study was to investigate which protective factors, factors that support successful adaptation, are implicated in college success, as defined by a student's social, emotional, and academic adjustment to college outcomes during an individual's first semester of their first year. Further, the present study reevaluated first-year students' self-reported academic success, retention, and satisfaction with their college experience after attending university for two-years.

Defining Resilience in Relation to College Adjustment

For over fifty years, researchers have examined how individuals faced with significant challenges are able to make successful life transitions. The term "resilience" has emerged from such research, which is defined by Masten (2013) as, "the capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development." The development of the concept of resilience has generated interest in understanding and assessing particular characteristics and factors that predict a higher probability of positive outcomes, or bolster resilience, particularly in the context of high-risk or adversity. Such qualities are termed protective factors, protecting against risk and negative outcomes (Masten, 2013; Werner & Smith, 1992). Specifically, researchers have been interested in understanding the protective factors that differentiate individuals with healthy patterns of adjustment from those who fare less well (Luthar, Cicchetti, & Becker, 2000; Masten, 2013; Werner & Smith, 1992).

Masten (2013) differentiates between different types of resilient experiences, including positive adaptation and maintenance of success in spite of stressful situations and experiences. In relation to college adjustment, the ability to successfully adapt during one's transition into college, despite a range of personal, emotional, social, and academic stressors and challenges would be considered a form of resilience. Resilience, in this context, can be thought of as an individual's successful adjustment to college as measured by effective adaptation to the environment.

Research on resilience has found it to be a rather common experience that occurs more frequently than not, due to basic normative functions of human adaptation (Masten, 2001; Masten, 2013). Masten discusses the "ordinariness" of resilience, in that perceived threats or stressors to human development and adaptation engage protective factors to overcome such

challenges. As a result, resilience research allows for a focus on the strengths and protective characteristics an individual possesses as opposed to risk factors or maladaptive tendencies of an individual. Resilience is also seen as a dynamic process, as opposed to a trait (Luthar et al., 2000; Masten, 2013). Research on resilience provides an understanding of what processes lead to positive or successful outcomes. Thus, an individual can demonstrate successful adjustment and adaptation in one capacity, while adapting less well in other domains. Related to college adjustment, college success is multifaceted, involving emotional adjustment, social adjustment, and academic adjustment. Therefore, an individual may demonstrate successful adjustment (i.e., resilience) in the emotional and social domains, while adjusting less well in relation to academics.

College Adjustment as a Stressful Transition

The first year in college serves as a stressful transition for emerging adults who are faced with a plethora of emotional, social, and academic stressors, adjustment to a new identity, and newfound independence (Arnett, 2013; DeBerard et al., 2004). While some students are effectively able to adapt to college, others find the demands of being a college student to be overwhelming and insurmountable (DeBerard et al., 2004; Dyson & Renk, 2006). The move to a college environment is the beginning of a student's transition from adolescence to emerging adulthood (Arnett, 2013). Individuals in this life stage are currently exploring their identity and therefore do not have a personal view of themselves as either an adolescent or an adult (Arnett, 2013; Dyson & Renk, 2006). As a result, emerging adults in this developmental stage tend to take on a variety of roles to explore and further solidify their identity (Arnett, 2013). Individuals often choose to shape both their identity and their environment to best suit personal needs, goals, and psychological well-being.

The stressors and unfamiliarity of the college lifestyle can result in several challenges during this transition. Such difficulties include challenges to personal security and self-esteem (Hurst, Baranik, & Daniel, 2013), a yearning for acceptance, a need for comfort (Blimling & Miltenberger, 1990; Chu, 2016; Dyson & Renk, 2006), increased loneliness and social anxiety (Larose & Boivin, 1998; Nordstrom, Goguen, & Hiester, 2014), and decreased perception of a social support network (Beck, Taylor, & Robbins, 2003; Chao, 2012). When faced with these unfamiliar problems, demands, and challenges, college students are required to find a way to manage and successfully adapt to their surrounding environment. Therefore, these factors all have a hand in making one's adaptation to the college environment more stressful and difficult. Studies by Dyson and Renk (2006) and Hurst et al. (2013) found that the stress associated with this transition resulted in significant increases in first year students' psychological disturbance, depression, and absent-mindedness.

Given that studies have shown that the stress related to the university setting negatively influences the ability to perform well and successfully transition, it is important to understand strategies and protective factors that may increase the likelihood of positive adaptation to this environment. Understanding what protective factors separate students who persist at the university from those who drop out is essential. Such information can lead to a better understanding of whom among students are likely to prevail and successfully adjust to college and whom possess different characteristics that make their adjustment difficult and likely contribute to failure. To understand the differences between those who succeed in spite of the challenge and those who decide to leave college, a number of studies have examined protective factors that increase one's ability to make a successful adaptation to college.

Protective Factors

General protective factors. The attention given to resilience research has resulted in some major shifts in fields related to prevention and treatment. Resilience promotion programs utilize the individual's personal strengths and other family and community resources that serve as protective systems available to the individual (Masten, 2013). The focus is on the use of harm and stress reduction through the strengthening of protective factors. Protective factors serve as strategies that restore efficacy of adaptational systems, allowing individuals who possess such factors to be more likely to overcome adversity and hardship (Masten, 2013; Mohr & Rosén, 2012).

Protective factors have been identified in multiple contexts, including individual, familial, and community (Blum, McNeely, & Nonnemaker, 2002; Masten, 2013). Individual protective factors are qualities that exist within the individual that aid in successful transition and adaptation to unfamiliar environments particularly when the individual faces high-risk or adversity while making this adjustment (Masten, 2013; Mohr & Rosén, 2012). A number of individual characteristics have repeatedly been found to act as protective factors, including: high levels of cognitive functioning (i.e., problem solving skills), easygoing temperament, positive self-concept, high self-esteem, and motivation to succeed (Galatzer-Levy, Burton, & Bonanno, 2012; Luthar et al., 2000; Masten, 2013; Robbins et al., 2004). Emotional intelligence or regulation (Galatzer-Levy et al., 2012; Luthans, Vogelgesang, & Lester, 2006; Masten, 2013), higher educational attainment (Benzies & Mychasiuk, 2009; Masten, 2013; Newcomb & Bentler, 1987), high religiosity (Masten, 2013), and having talents (Masten, 2013) are other characteristics that serve an individual protective function. To conclude, Luthans and colleagues (2006) as well as Masten (2013) have noted that core individual protective factors also comprise

self-efficacy, optimism about present and future success, perseverance, a sense of hope, and flexibility toward changing demands and new experiences.

In relation to familial protective factors, Amatea, Smith-Adcock, and Villares (2006) have developed a family resilience theory that identifies family resources that aid in one's ability to overcome life challenges or stressors. The researchers developed this theory through four different facets of family resources: beliefs and expectations, emotional connectedness, organizational patterns, and learning opportunities. Individuals who grow up in a family environment that contain these qualities are likely to develop these traits and be encouraged to do so (Black & Lobo, 2008; Masten, 2013). Family beliefs and expectations can serve as a protective factor through a sense of purpose, positive outlook, and a sense of efficacy. Amatea and colleagues (2006) define a sense of purpose through a family's focus on setting goals, encouragement toward success, ability to learn from mistakes and failures, and demonstration of parental involvement and commitment. A positive outlook within the family's beliefs and expectations is established through an optimistic view, confidence in the ability to overcome adversity, parental support, and an emphasis on fostering personal strengths. In this family framework, self-efficacy is viewed as perseverance in overcoming challenges and confidence in one's ability to learn and grow.

Emotional connectedness as a protective factor in the family resilience theory incorporates emotional warmth and caring, parental involvement and connections, clear and open communication, and collaborative problem-solving (Amatea et al., 2006; Masten, 2013). Family organizational patterns act as a protective factor through clear familial expectations and responsibilities, positive and supportive parenting practices, financial stability, and social support from kin. Amatea et al. (2006) describe family learning opportunities as a protective factor in

families that engage in enriching learning activities and provide exposure to secure, prosocial adult relationships and communication styles.

The community is the third and final context in which protective factors are considered. A number of empirical studies have found access to quality education and positive school environments to be protective (Luthar et al., 2000; Masten, 2001; Masten, 2013; Woolley & Grogan-Kaylor, 2006). Other factors in this context that have been found to serve a protective function include involvement in prosocial organizations (Galatzer-Levy et al., 2012; Masten, 2013), positive peer influences and connections (Woolley & Grogan-Kaylor, 2006), and connections with prosocial adults outside of the family context (Masten, 2013; Mohr & Rosén, 2016).

Gender Differences in Protective Factors. Gender socialization is the process by which children are taught how to behave socially in accordance with culturally constructed views of gender (Kretchmar, 2009; Lindsey, 2015). As such, males and females are expected to behave in certain ways that are socialized throughout development. Gender socialization can be explained via social learning theory and gender schema theory (Kretchmar, 2009). According to social learning theory, children are both reinforced and punished for gender appropriate and gender inappropriate behaviors (Kretchmar, 2009; Lindsey, 2015). The behaviors a child adopts are learned through social observation and imitation, for example seeing how gender is communicated and displayed through parental figures. Gender schema theory is related to cognitive development. As children learn to distinguish between men and women as communicated by their culture, they begin to use gender to process information about the world (Kretchmar, 2009; Lindsey, 2015). Over time, gender schemas allow children to organize

information and maintain behaviors that are consistent and/or predictable for their gender (Lindsey, 2015).

Through gender socialization, girls begin to view themselves as a relational entity (Kretchmar, 2009). Girls explore who they are in relation to others, seeking connections with parental figures and prosocial adults outside of the family (Lindsey, 2015). As a result, girls develop stronger communication skills, a positive sense of self (i.e., self-image and self-esteem), and a tendency toward prosocial, empathic interpersonal relationships (Antonucci & Akiyama, 1987; Eagly, 2013; Sun & Stewart, 2007). However, men are socialized to value greater independence (Eagly, 2013). As such, men develop a tendency toward competition, task-oriented problem solving, and less help-seeking behaviors (Antonucci & Akiyama, 1987; Eagly, 2013; Kretchmar, 2009; Lindsey, 2015; Sun & Stewart, 2007).

Many researchers support the notion that protective factors associated with resilience are different between men and women due to the varied composition and function of their social behaviors. Specifically, research suggests familial and extrafamilial protective factors are associated with successful adjustment in women, while individual protective factors are related to positive adjustment in men (Chandy, Blum & Resnick, 1996). However, this research is not conclusive, as women still benefit from individual protective factors and men also benefit from familial and extrafamilial protective factors.

Research conducted by Hartman and colleagues (2008) further explored gender differences in protective factors. Findings from this study also suggested that men and women benefit from different protective factors during transition periods. However, the researchers primarily found what protective factors predicted resilience in women, without revealing any significant protective factors for men. For instance, religiosity and quality education are

protective factors more commonly associated with success in women (Hartman, Turner, Daigle, Exum, & Cullen, 2008). Gender differences were also found in the significance of social support on resiliency, with women benefitting more from social support than men (Antonucci & Akiyama, 1987; Butler, Giordano, & Neren, 1985; Eagly, 2013; Friborg, Hjemdal, Rosenvinge, Martinussen, 2003; Hartman et al., 2008). Hartman and colleagues (2008) also found that self-esteem serves as a significant protective factor associated with positive adjustment in women more than men. While some differences are found, these findings tend to suggest that the impact of different protective factors is rather general, as opposed to gender-specific.

It is also important to evaluate whether the opposite is true, that males and females are not vastly different. This idea has been popularized by Hyde (2005) who developed the gender similarities hypothesis. The gender similarities hypothesis posits that males and females are similar in most, but not all, psychological variables. Hyde (2005) took a very different approach from the majority of other gender research which aimed to draw conclusions about gender differences. Alternatively, Hyde (2005) asserted that males and females are more alike than they are different. Hyde's research has primarily used meta-analyses to aggregate research findings about gender differences and similarities to assess what conclusions can be drawn. Hyde highlighted that when conducting a meta-analysis, it is important to evaluate effect size (e.g., *d*; Cohen, 1988). Effect size informs you how far apart male and female means are in standardized units. Thus, while a significant difference can be found between males and females in different variables, Hyde (2005) noted that it is important to look at the magnitude of the effect size to determine how large the difference actually is between male and females.

Hyde's (2005) research reported that when evaluating gender differences research, statistically significant gender differences have effect sizes that primarily fall in the close-to-zero

range (30%) or small range (48%). However, there are a few areas in which gender differences have been found that fall in the range of moderate to large effect size. Hyde (2005) noted the following: males have greater throwing velocity and throwing distance than females, males engage in more frequent masturbation than females, and males display greater physical aggression than females. With increased evidence supporting gender similarities as opposed to differences, it is important to evaluate the influence of gender in the college adjustment process. Therefore, the present study aimed to continue to develop this research area to better understand gender differences or similarities in protective factors, specifically in the college environment.

Protective Factors for Dealing with the Stress of College Adjustment. A number of prior empirical studies have assessed successful college adjustment despite prior adversity, to better understand how individuals who have experienced adversity are able to adjust (Cantor & Banyard, 2004; Duncan, 2000; Maples, Park, Nolen, & Rosén, 2014; Meeuwisse, Severiens, & Born, 2010; Mohr & Rosén, 2016; Read, Ouimette, White, Colder, & Farrow, 2011; Seidman, 2005). However, fewer researchers have studied factors that aid in managing the stress inherent in the adjustment to the college environment itself. As documented above, adjustment to the college environment can be an extremely stressful event all by itself. The student is presented with a life transition from adolescence to adulthood. This adjustment creates current stress that includes emotional, social, and academic stressors, adjustment to a new identity, and newfound freedom (Arnett, 2013; DeBerard et al., 2004). The unfamiliarity of the college environment also presents challenges to personal security and self-esteem (Hurst et al., 2013), a yearning for acceptance, a need for comfort (Blimling & Miltenberger, 1990; Chu, 2016; Dyson & Renk, 2006), increased social anxiety (Larose & Boivin, 1998; Nordstrom et al., 2014), and decreased perception of social support (Beck et al., 2003; Chao, 2012). When faced with these stressors,

college students are required to find a way to successfully adjust to their new environment. Therefore, certain protective factors make adjustment to the college environment easier and less stressful.

A study conducted by Galatzer-Levy, Burton, and Bonanno (2012) assessed factors that bolstered college adjustment in first-year undergraduate students. Protective factors predictive of general college adjustment included quality education, self-efficacy, optimism, emotion regulation, prosocial relationships, and social engagement (Galatzer-Levy et al., 2012). Research by Woolley and Grogan-Kaylor (2006) have also found that good schooling and positive school environments are protective, as well as positive peer influences and connections. Other research has found protective factors to include the ability to maintain family relationships during the college adjustment period (Larose & Boivin, 1998; Masten, 2013), perceived social support (Friedlander, Reid, Cribbie, & Shupak, 2007), optimism, psychological control (Masten, 2013), and self-esteem (Friedlander et al., 2007).

Factors Predicting College Retention and Academic Success

Research on the factors that influence college success and retention has historically focused on a number of factors, such as gender (Sanders, 1997), parental education level (Ting & Robinson, 1998), high school grade-point average (Ting & Robinson, 1998; Tobey, 1997), and scores on standardized tests such as the American College Test (ACT) and Scholastic Aptitude Test (SAT; Foster, 1997; Sanders, 1997). Such studies have found these factors to predict whether an undergraduate student is likely to achieve academic success and persist in college. For example, a meta-analysis conducted by Robbins et al. (2004) found academic self-efficacy to be highly related to college retention, while academic self-confidence and motivation were related to academic success (i.e., GPA). These findings have been replicated by numerous

researchers (Gerdes & Mallinckrodt, 1994; Pritchard & Wilson, 2003; Robbins et al., 2006). However, such variables likely do not account for all the variation in academic success and retention.

More recent research has begun evaluating how social and emotional factors influence academic success and retention. Krumrei-Mancuso and colleagues (2013) discuss the impact of student involvement on college success and retention. Specifically, students who are more socially involved in their academic experience (e.g., involvement in prosocial organizations, prosocial relationships with faculty, strong social support, etc.) are more likely to succeed academically and remain at their university (Arthur, Shepherd, & Sumo, 2006; DeBerard et al., 2004; Gerdes & Mallinckrodt, 1994; Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; Pritchard & Wilson, 2003; Rocca, 2010). These findings further support evidence from Robbins' and colleagues (2004; 2006) who found social involvement, social support, and institutional commitment to be related to greater academic success and retention.

Beyond the impact of social factors on college success and retention, it is important to consider emotional factors that influence college success. Emotional problems, such as anxiety and depression, are common mental health concerns that impact students' academic success, satisfaction with their college experience, and retention (American College Health Association, 2009; Gerdes & Mallinckrodt, 1994; Pritchard & Wilson, 2003; Pritchard, Wilson, & Yamnitz, 2007). In fact, several studies have found positive emotional health and emotional satisfaction to be predictive of students' GPA and retention (Gerdes & Mallinckrodt, 1994; Krumrei-Mancuso et al., 2013; Pritchard & Wilson, 2003; Pritchard et al., 2007; Robbins et al., 2004).

Current Study

Numerous prior empirical studies have assessed successful college adjustment despite prior trauma exposure (Cantor & Banyard, 2004; Duncan, 2000; Read et al., 2011), childhood maltreatment (Maples et al., 2014; Mohr & Rosén, 2016), and stressors due to minority-status (Eimers & Pike, 1997; Meeuwisse et al., 2010; Nora & Cabrera, 1996; Seidman, 2005). Such studies intended to understand how individuals who have experienced early childhood adversity are able to adjust. In contrast to prior research, the present study aimed to advance the literature on the general adjustment process during the first semester of college, while controlling for prior adversity, to determine which factors serve to enhance one's likelihood of successful adjustment to the college environment. With limited research on adjustment to the college environment, even less research has evaluated whether protective factors influence retention rates. Therefore, the present study also aimed to follow the sample of first-year students after two years at their university to assess whether protective factors were predictive of later college academic success, retention, and satisfaction.

In addition, minimal research has been conducted on gender differences associated with protective factors (Chandy et al., 1996; Friborg et al., 2003; Hartman et al., 2008; Ogg, Brinkman, Dedrick, & Carlson, 2010; Shirley, 2011). The present research aims to fill the void in literature regarding whether a difference exists between males and females in protective factors associated with successful college adjustment.

The research questions and hypotheses are as follows:

1. In a sample of college students, what protective factors are associated with successful adjustment to the college environment during the first semester?

2. Is initial college adjustment, as measured at the end of the first-semester of college, associated with college success and retention in a student's second year?

    Hypothesis 1: Successful adjustment, as measured by emotional, social, and academic adjustment, will be associated with retention at the university.

    Hypothesis 2: Successful adjustment will be associated with academic success (i.e., higher GPA).

3. Is initial college adjustment, as measured at the end of the first-semester of college, associated with student satisfaction with his/her college experience in the student's second year?

    Hypothesis 1: Successful adjustment, as measured by emotional, social, and academic adjustment, will be associated with greater satisfaction with one's college experience.

4. Does gender moderate the relationships between predictor variables and outcome variables in the hypothesized model?

5. Are different protective factors associated with successful adjustment to the college environment for males and females?

    Hypothesis 1: Familial and community protective factors will be significantly associated with successful college adjustment among females more than males.

    Hypothesis 2: Individual protective factors will be significantly associated with successful college adjustment among males more than females.

    Hypothesis 3: Females will report significantly stronger parental connections, prosocial support outside the family context, self-esteem, religiosity, and good schooling compared to males.

CHAPTER II

Method

Participants

Participants for this study included 116 students from introductory psychology classes who received class credit for participation. Participants came from a large western United States university and included 101 (87.1%) females and 15 (12.9%) males with an average age of 18.1 years (*SD* = 0.85). Furthermore, 4 (3.4%) identified as African American/Black, 2 (1.7%) as American Indian/Native American, 5 (4.3%) as Asian American/Asian, 11 (9.5%) as Hispanic/Latino, 1 (0.9%) as Native Hawaiian/Pacific Islander, 90 (77.6%) as White non-Hispanic, and 3 (2.6%) reported Other. The sample consisted of undergraduate students from a wide variety of academic backgrounds at a large western state university, with 23 (19.8%) participants with an undeclared major. All participants were full-time students. The same sample of students were contacted during the spring 2018 academic semester to collect longitudinal data on their current grade-point average (GPA), whether they have remained at Colorado State University (CSU), and satisfaction with their college experience.

Colorado State University's Institutional Research (2016) recently researched retention rates at the sampled university. First-year retention at this university was found to 86.2% in the fall semester of 2015. Further, 75.7% of students at Colorado State University were found to remain at the university until their fourth year. Of these students, 44.8% graduated after four years (Colorado State University Institutional Research, 2016).

Measures

College Adjustment. College adjustment was measured using the College Adjustment Questionnaire (CAQ; Shirley & Rosén, 2010). The CAQ contains 14 items placed on a 5-point Likert scale (Appendix A). The measure is divided into three subscales: Academic Adjustment, Social Adjustment, and Emotional Adjustment. Participants responded to the items on the survey based on how accurately each statement described their college experience at the current point in time (0 = very inaccurate, 4 = very accurate). For example, "I am succeeding academically" and "I am satisfied with my social relationships." Five items on this scale are reverse coded, including items 2, 8, 9, 11, and 13. The Academic Adjustment subscale measures participants' beliefs on whether they are succeeding academically, feel they are doing well in classes, are content with their course grades, and if participants feel they are meeting personal academic goals. The Social Adjustment subscale focuses on whether participants believe they are socially engaged, feel they have easily found friends during their college experience, and if they are content and satisfied with their social relationships. The Emotional Adjustment subscale measures participants' emotional and psychological experiences during college, asking questions regarding success of coping emotionally to stressful events, emotional stability, and emotional satisfaction with the college experience. In this sample, the subscales yielded alpha levels ranging from of 0.86-0.92 (Academic Adjustment), 0.60-0.88 (Social Adjustment), and 0.67-0.81 (Emotional Adjustment) over the three time points. Full scale reliability was also high (alpha ranging between 0.77-0.90), along with an adequate demonstration of construct validity.

Protective Factors. The Social and Emotional Resources Inventory (SERI; Mohr & Rosén, 2012) was adapted to measure protective factors. The SERI contains 50-items placed on a 5-point Likert scale. It is designed to measure the presence of individual, familial, and

community protective factors (Appendix B). The measure is divided into 12 subscales: intelligence (4 items), parenting practices (5 items), parent connections (3 items), self-esteem (5 items), money (3 items), resources (3 items), faith (6 items), talent (6 items; e.g., "I have a personal talent"), good schooling (4 items), prosocial adults (4 items), kin connections (4 items), and prosocial organizations (3 items). The SERI was adapted for this study such that participants responded to the items on the survey based on how accurately each statement described their current situation (1 = very inaccurate, 5 = very accurate). For example, "My family does not have to worry excessively about money" and "My faith or spirituality is important to me." In a sample of college students, the scale's internal consistency estimates for the 12 subscales ranged from 0.84 to 0.97 and full-scale reliability was found to be 0.95 (Mohr & Rosén, 2012). In the current study, the internal consistency estimates for the 12 subscales ranged from 0.71 to 0.95. Full scale reliability from the present sample was found to be 0.94.

Since the SERI does not measure coping and optimism, additional measures were used to assess these constructs. The Coping Self-Efficacy Scale (CSES; Chesney, Neilands, Chambers, Taylor, & Folkman, 2006) was used to measure coping self-efficacy. The CSES is a 26-item measure on an 11-point Likert scale that assesses participants' beliefs about their ability to engage in coping behaviors (Appendix C). Participants respond to the items on the survey based on how confident or certain they are that they can perform different behaviors important to adaptive coping (0 = cannot do at all, 5 = moderately certain can do, 10 = certain can do). Examples of behavior participants rate their confidence in performing include making unpleasant thoughts go away, breaking an upsetting problem down into smaller parts, and getting emotional support from friends and family. The CSES results in an overall score, obtained from summing the item ratings (mean = 137.4, SD = 45.6). Higher scores on the measure indicate greater

confidence in one's ability to positively cope with threats and challenges. The CSES measure has yielded a Cronbach's alpha of 0.95 (Chesney et al., 2006). The CSES measure also yielded a full-scale reliability of 0.95 for the current sample.

As for optimism, the Life Orientation Test Revised (LOT-R; Scheier, Carver & Bridges, 1994) was used to measure this construct. The LOT-R is a brief 10-item instrument that measures one's tendency towards optimism (Appendix D). Participants respond to the items on the survey based on how much they personally agree with each statement (1 = I agree a lot, 5 = I disagree a lot). Items 2, 5, 6, and 8 in the survey are filler items, meaning they are not scored. Items 3, 7, and 9 are reverse scored. The LOT-R results in an overall score, obtained from summing the item ratings. Higher scores on the measure indicate a greater tendency towards optimism. Sample items include, "In uncertain times, I usually expect the best" and "I'm always optimistic about my future." Directions for the instrument were altered to reflect the present tense. The measure has yielded a Cronbach's alpha of 0.78 (Scheier et al., 1994). Test-retest reliability has been found to be high, with values ranging from 0.68 for four months, 0.60 for twelve months, 0.56 for twenty-four months, and 0.79 for twenty-eight months (Scheier et al., 1994). The LOT-R yielded a Cronbach's alpha of 0.79 for the current sample.

Traumatic Events. Given the importance of assessing for the presence of traumatic events for individuals in the sample, a 10-item Trauma History Questionnaire (THQ) was used to assess trauma history for participants in the sample (Appendix E). This measure served as a control, as the impact of this construct on college adjustment was be removed. Presence of prior trauma was indicated by the following experiences taken from Triplett, Tedeschi, Cann, Calhoun, and Reeve's (2001) research on trauma history in college students: death of a close loved one; serious medical problem; close friend, family member, or significant other

experiencing a serious medical condition; accident that led to serious injury to themselves or someone close to them; place of residence being damaged by fire or other natural causes; experienced a divorce (parental or personal); physically assaulted; sexually assaulted; victim of a crime such as robbery or mugging; and being stalked. Participants were asked to indicate whether they have experienced each traumatic event (0 = did not experience, 1 = experienced given event) and the severity of each traumatic event (0 = not severe to 4 = extremely severe). The total trauma score is the sum of the total number of traumas an individual endorsed, ranging from 0 to 10. The total severity score is the average of the severity ratings provided, resulting in a severity score ranging from 0 to 4. Reliability statistics are not provided for this measure because the items do not necessarily correlate with one another, as items are intended to measure different traumas an individual may have experienced. For example, if a participant responded that they experienced the death of a loved one (Item 1), it does not mean they are more likely to have also experienced a sexual assault (Item 8).

Grade-Point Average (GPA). GPA will be evaluated using a single question, asking participants to self-report their current undergraduate GPA. It is important to note that using self-reported GPA is a potential limitation in this study, due to concerns about the accuracy of self-reported GPA compared to actual GPA. Literature evaluating self-reported and actual academic performance report relatively high correlations (Cole & Gonyea, 2010; Cole, Rocconi, & Gonyea, 2012). Research by Cole, Rocconi, and Gonyea (2012) found that higher achieving students were more accurate at self-reporting than lower achieving students. Specifically, the researchers found that "A" students' self-reported GPA was 91.3% accurate compared to their actual grades, "B" students were 70% accurate, and "C" students were 43% accurate. Lower achieving, "C" students, were less accurate in their self-reporting, with a tendency to overstate

their grades (i.e., reporting higher grades than they received). The overall correlation in this study between self-reported GPA and actual GPA was 0.71 (Cole, Rocconi, & Gonyea, 2012). Other researchers have found similar results, particularly that when students are not accurate they are more likely to overstate than understate their grades (Cabrera, Stampen, & Hansen, 1990; Kuncel, Credé, & Thomas, 2005; Frucgt & Cook, 1994). Further, these studies have reported a high level of validity in student self-reported GPA, with overall correlations between self-reported and actual GPA ranging from 0.75-0.84.

Retention. Retention will be assessed using a single question, asking participants if they are currently still a student at CSU.

Satisfaction with College Experience. The Satisfaction with Life Survey (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was adapted to measure student satisfaction with his or her college experience. For the purposes of this study, the wording of each item was altered to reflect satisfaction with one's college experience rather than overall life satisfaction (Appendix F). The SWLS contains five items placed on a 7-point Likert scale. Participants respond to the items on the survey based on how much they agree with each statement about their college experience (1 = strongly disagree to 7 = strongly agree). The SWLS results in an overall score that indicates degree of satisfaction with one's college experience, with low scores indicating dissatisfaction and high scores representing satisfaction. Sample items include, "I am satisfied with my college experience" and "If I could live my college experience over, I would change almost nothing." The measure has yielded a Cronbach's alpha of 0.87 and a two-month test-retest reliability correlation coefficient of 0.82 (Diener et al., 1985). More recently, studies have found the SWLS to yield a Cronbach's alpha ranging from 0.77 to 0.87 (Adler & Fagley, 2005;

Steger, Frazier, Oishi, & Kaler, 2006; Vassar, 2008). The SWLS yielded a Cronbach's alpha of 0.72 for the current sample.

Demographics Questionnaire. Descriptive information about the sample were obtained using a 7-item demographics questionnaire to gather information on the participants' age, gender, major, ethnicity, sexual orientation, family household income, the number of course credits enrolled in for the current semester, and whether or not they are a part-time or a full-time student.

Procedure

Participants accessed the survey through any computer that had Internet access in any desired location. All participant responses were anonymous; no personal identifying information was collected to protect confidentiality. Prior to participation in the study, each participant was shown a consent form explaining the procedure, associated risks in the experiment, and assurance of the confidentiality of any information provided during the survey. After reading the consent form, participants were asked to check a box labeled "I agree to proceed." Participants were also asked if they consented to being contacted via email in the future to participate in a future follow-up study (i.e., in second year at university). Participants who agreed to the terms of the consent form were directed to the survey. Those who did not wish to participate were directed to the end of the survey. The web-based survey software, Qualtrics, provided all necessary instructions for the participants to proceed.

Participation in the current study required participants to complete various surveys at three separate points in time. Participants completed the CAQ, SERI, CSES, LOT-R, THQ, and demographics questionnaire at the beginning of the academic semester (i.e., within four weeks from the start of the semester). Participants completed the CAQ again at the end of the first semester (i.e., during the last four weeks of the semester) to assess how college adjustment

changed over time. Finally, participants completed the CAQ, SWLS, retention question, and GPA question at the end of their second year in college. All measures and procedures were approved by Colorado State University's Institutional Review Board (IRB).

Beginning of the semester. Participants were directed to the study measures. Participants were required to create a unique identification number in order to match their first set of data to future data. Identification numbers were created by taking the participants first four digits of their birth month and date and the last three digits of their school identification number, creating a unique seven-digit identification number for each participant. After creating this identification number, respondents completed the CAQ, SERI, CSES, LOT-R, THQ, and demographics questionnaire.

End of the semester. Participants input their unique seven-digit identification number to link their second set of data to their data from the beginning of the semester. Respondents then completed the CAQ. Participants concluded the study by reading the debriefing form. Within the debriefing form, participants were provided contact information for the Colorado State University Health Network Counseling Services which could be used if they experienced any negative effects due to their participation in the study or needed further assistance in successfully adjusting to college.

Second year. Participants who completed the prior surveys were contacted via their Colorado State University email address. Individuals who agreed to participate reviewed the consent form from their prior participation. Participants were requested to input their unique seven-digit identification number to link their prior data to the current data. Respondents completed the question about their GPA, the question about whether they are still completing their education at Colorado State University (i.e., retention), the CAQ, and the SWLS.

Participants concluded the study by reading the debriefing form, in which they were again provided information for the Colorado State University Health Network Counseling Services which could be used if they experienced any negative effects due to their participation.

CHAPTER III

Results

Analysis Plan

All variables were scored on a continuous scale and were normally distributed, apart from biological sex which was coded (1 = males, 2 = females) and retention (0 = retained at CSU, 1 = no longer a student at CSU). All necessary items were reversed scored and subscale scores were created (e.g., average academic adjustment). The hypothesized path model is presented in Figure 1. All analyses were conducted using Mplus 8.0 (Muthén & Muthén, 1998–2017).

Missing data. Once data was gathered for all three time points, missing data was handled. Participants with more than 50% missing values were deleted from the dataset due to not completing a satisfactory portion of the study. After aggregating the data from the beginning and end of first semester, a total of 303 participants were included in the sample. Only 38% (116) of the sample completed the final portion of the study at the end of their second year, resulting in a 62% (187) attrition rate. To handle missing data, multiple imputation was conducted using Mplus 8.0 (Muthén & Muthén, 1998–2017). Multiple imputation is a statistical technique for analyzing incomplete datasets. Missing data is imputed (i.e., filled in) *m* number of times and results in *m* complete datasets. For the current study, missing data was imputed 10 times, resulting in 10 complete datasets. These 10 imputed data sets were used for all data analyses. Assumptions of linear regression were tested on the complete datasets, including (1) linear relationships between independent and dependent variables, (2) no outliers, (3) multivariate normality, (4), little to no multicollinearity, (4) independence of observations, and (5) homoscedasticity. No assumptions were violated.

In addition, bootstrapping was used in all data analyses. The convention in structural equation modeling is to have 10 participants for every parameter being estimated. The hypothesized model (Figure 1) contained 60 parameters that were estimated; therefore, 600 participants are needed to have enough power to test the model. However, only 116 participants completed the present study. Bootstrapping is a method of estimating statistical parameters by resampling with replacement from the original sample (Ong, 2014). This means that each observation in the sample has the same probability of being sampled, and with replacement, an observation has the same probability of being picked subsequently. Bootstrapping assumes that the sample distribution is representative of the population from which the sample was drawn from (Ong, 2014). Bootstrapping is an option for small sample sizes because it can draw repeated samples from the given sample to provide a more comprehensive picture of the sampling distribution and helps to stabilize parameters (Efron & Tibshirani, 1986; Krebsbach, 2013). In the present study, 5,000 random repeated samples with replacement were drawn from the sample size of 116 participants due to sample size limitations.

Latent variable analysis. The hypothesized structural equation model contained six latent variables (Figure 1). Individual protective factors was modeled as a latent variable composed of six indicators, i.e., intelligence, faith, self-esteem, personal talent, coping self-efficacy, and optimism. Familial protective factors was modeled as a latent variable composed of five indicators, i.e., parental connections, parenting practices, resources, money/financial stability, and kin connections. Community protective factors was modeled as a latent variable with three indicators, i.e., prosocial adult relationships, prosocial organizations, and good schooling. Finally, adjustment was modeled as a latent variable composed of three indicators, i.e., academic, emotional, and social adjustment. Three different adjustment latent variables were

included in the hypothesized model to represent adjustment measured at different time periods, i.e., beginning of first semester, end of first semester, end of second year. Confirmatory factor analyses (CFA) were conducted to assess the factor loadings of proposed indicators onto each latent variable. After conducting the CFA, model fit was poor. As a result, variables with low factor loadings were evaluated. A commonly used rule specifies that only variables with factor loadings greater than 0.40 should be considered significant and used to define a latent variable (Schreiber et al., 2006). Therefore, indicators with a factor loading at or below 0.40 were removed from their associated latent variable. This resulted in Faith ($\lambda = 0.40$) being removed from the Individual Protective Factors latent variable and Resources ($\lambda = 0.40$) being removed from the Familial Protective Factors latent variable. After deleting these two variables, model fit was still poor. Since the Money variable ($\lambda = 0.43$) had a low factor loading it was also deleted from the Familial Protective Factors latent variable. This resulted in acceptable model fit. Final factor loadings onto latent variables are reported in Table 1.

Structural equation model. A structural equation model was conducted to test the following research questions:

1. What protective factors are associated with successful adjustment to the college environment during the beginning of the first semester?
2. Is initial college adjustment, as measured at the end of the first semester of college, associated with GPA and retention in a student's second year?
3. Is initial college adjustment, as measured at the end of the first semester of college, associated with student satisfaction with his/her college experience in the student's second year?

4. Does gender moderate the relationships between predictor variables and outcome variables in the model?
5. Are different protective factors associated with successful adjustment to the college environment for men and women?

Research question 1 was tested by adding direct paths from the individual, familial, and community protective factors to adjustment at the end of first semester. Research questions 2 and 3 were tested by adding direct paths from adjustment at the end of first semester to GPA, retention, and satisfaction with one's college experience. Research question 4 was tested using multi-group analysis by sex. All paths from indicators to latent variables were constrained since gender invariance was met at the configural, metric, and scalar levels for all six latent variables in the model (see tests for measurement invariance by gender section below). All other paths in Figure 2 were allowed to vary freely across groups. Finally, research question 5 was tested using independent samples t-tests to assess for gender differences in reported protective factors at the individual, familial, and community level.

Direct effects from all predictor variables to outcome variables are specified as indicated in Figure 1. Regression coefficients, standard errors, and standardized regression coefficients were analyzed for each direct effect. Standardized regression coefficients (i.e., β) are an index of effect size, with values of 0.1, 0.3, and 0.5 being considered small, medium, and large, respectively (Cohen, 1988).

Model building procedure. Prior to building the hypothesized model, tests for measurement invariance – both gender invariance and longitudinal invariance – were conducted. After these analyses, latent variables were added to the model one at time. To test the hypothesized structural equation model (Figure 1), pathways were added one-by-one to assess

changes in model fit (Table 2). To evaluate overall model fit, model fit criteria suggested by Hu and Bentler (1999) was used, including the comparative fit index (CFI) > .95, Tucker–Lewis Index (TLI) > .95, root mean square error of approximation (RMSEA) < .06, and standardized root mean square residual (SRMR) < .08. In addition, Chi-Square test of model fit was evaluated, where a non-significant test indicates perfect fit of the model to the data.

As hypothesized paths were added to the model, model fit improved, but was still poor. Modification indices were analyzed using Mplus 8.0 (Muthén & Muthén, 1998–2017) to assess whether adding pathways to the model would improve model fit. Based on the provided modification indices, the following covariances were added, in order, to the model: Personal Talent with Intelligence, Coping Self-Efficacy with Optimism, Parent Connections with Parenting Practices, Intelligence with Good Schooling, and Academic, Emotional, and Social Adjustment over time (i.e., Time 1 v. Time 2, Time 1 v. Time 3, Time 2 v. Time 3). The final adjustment made to the model was adding direct paths from Individual, Familial, and Community Protective Factors to Adjustment at the Beginning of First Semester. Adding these direct paths made theoretical sense, as previous research on college adjustment has found protective factors to be impactful during the initial transition to college (Galatzer-Levy et al., 2012; Friedlander et al., 2007; Larose & Boivin, 1998; Masten, 2013; Woolley & Grogan-Kaylor, 2006). The best fitting model was selected using the model fit indices described above and only the best fitting model was reported on (Figure 2).

Results

Overall model fit. The final structural equation model resulted in acceptable model fit. The chi-square test of model fit was significant, $\chi^2(240) = 344.43$, $p < .001$. Overall fit indices were all in the excellent range (RMSEA = .04 [.03, .05], p = .99; CFI = 0.94; SRMR = 0.06).

Table 2 reports the model fit statistics as paths were added to the model and reports the final model fit statistics.

Latent variables. Confirmatory factor analyses were conducted to assess the model fit for the six proposed latent variables. Table 1 reports factor loadings of the indicators on the appropriate latent variable. The factor loadings for Individual Protective Factors ranged from 0.62 to 0.90 and were all statistically significant. The factor loadings for Familial Protective Factors ranged from 0.53 to 0.90 and were all statistically significant. The factor loadings for Community Protective Factors ranged from 0.45 to 0.66 and were all statistically significant. The factor loadings for Adjustment at the Beginning of First Semester ranged from 0.45 to 0.79 and were all statistically significant. The factor loadings for Adjustment at the End of First Semester ranged from 0.55 to 0.87 and were all statistically significant. The factor loadings for Adjustment at the End of Second Year ranged from 0.41 to 0.46 and were all statistically significant.

Tests for measurement invariance by gender. Measurement invariance testing indicated configural, metric, and scalar invariance was present across sexes for all six latent variables (i.e., Individual Protective Factors, Familial Protective Factors, Community Protective Factors, Adjustment at the Beginning of First Semester, Adjustment at the End of First Semester, Adjustment at the End of Second Year). This indicates that the factor structure, loadings, and intercepts are invariant by sex. Tables 3-8 report the results of the measurement invariance testing by gender for each latent variable.

Tests for longitudinal measurement invariance. Measurement invariance testing indicated that configural invariance was not present over time for the adjustment latent variables (i.e., Adjustment at the Beginning of First Semester, End of First Semester, and End of Second Year). This indicates that the factor structure, loadings, and intercepts for the three adjustment

latent variables vary over time. Therefore, the adjustment latent variables have different meanings over time and do not model true differences in the sample over time. It is likely that attrition over time negatively impacted longitudinal measurement invariance. Table 9 reports the results of the configural invariance testing for adjustment over time (i.e., Time 1 v. Time 2, Time 1 v. Time 3, all times).

Direct effects. All direct effects are reported in Table 10.

Trauma history. Trauma experiences and severity of those experiences were controlled for by adding a direct path between trauma and adjustment at all time periods (i.e., Beginning of First Semester, End of First Semester, End of Second Year). Number of traumatic experiences significantly and positively predicted adjustment at the beginning of first semester ($b = 0.03$, $SE = 0.04$, $p < .01$), such that a one-unit increase in number of traumatic experiences resulted in a 0.03-unit increase in successful adjustment to the college environment during the beginning of a student's first semester. This is a small sized effect ($\beta = 0.16$). Meanwhile, trauma severity significantly and negatively predicted adjustment at the beginning of first semester ($b = -0.15$, $SE = 0.10$, $p < .01$), such that a one-unit increase in trauma severity was associated with a 0.15-unit decrease in adjustment at the beginning of the semester. This is a medium sized effect ($\beta = 0.30$). The same pattern existed between number of traumatic experiences ($b = 0.08$, $SE = 0.05$, $p < .01$) and severity of traumatic experiences ($b = -0.22$, $SE = 0.13$, $p < .01$) in predicting adjustment at the end of a student's first semester. These are medium sized effects (number of trauma experiences: $\beta = 0.27$; trauma severity: $\beta = 0.33$). Specifically, a one-unit increase in number of traumatic experiences resulted in a 0.08-unit increase in adjustment at the end of first semester, while a one-unit increase in trauma severity resulted in a 0.22-unit decrease in adjustment at the end of a student's first semester. Adjustment to the college environment at the end of second

year was not significantly predicted by number of traumatic events (b = 0.001, SE = 0.06, p = .40) or the severity of one's traumatic experiences (b = -0.01, SE = 0.15, p = .40).

Adjustment at the beginning of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the beginning of a student's first semester. Specifically, individual protective factors significantly predicted adjustment at the beginning of the first semester (b = 0.73, SE = 0.20, p < .01), such that a one-unit increase in individual protective factors was associated with a 0.73-unit increase in adjustment. This is a large sized effect (β = 0.71). Familial protective factors significantly and positively predicted adjustment at the beginning of a student's first semester (b = 0.09, SE = 0.29, p < .01), such that a one-unit increase in familial protective factors was associated with a 0.09-unit increase in adjustment. This is a small sized effect (β = 0.09). Finally, community protective factors significantly and negatively predicted adjustment at the beginning of first semester (b = -0.03, SE = 0.21, p < .01), such that a one-unit increase in community protective factors resulted in a 0.03-unit decrease in adjustment. This is less than a small sized effect (β = 0.05).

Adjustment at the end of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the end of a student's first semester. Specifically, individual protective factors significantly predicted adjustment at the end of the first semester (b = 0.12, SE = 0.34, p < .01), such that a one-unit increase in individual protective factors was associated with a 0.12-unit increase in adjustment. This is a small sized effect (β = .09). Familial protective factors significantly and negatively predicted adjustment at the end of a student's first semester (b = -0.13, SE = 0.43, p < .01), such that a one-unit increase in familial protective factors was associated with a 0.13-unit decrease in adjustment. This is a small sized effect (β = 0.09). Finally, community protective factors significantly and positively predicted

adjustment at the end of first semester (b = 0.06, SE = 0.32, p < .01), such that a one-unit increase in community protective factors resulted in a 0.06-unit increase in adjustment. This is a small sized effect (β = 0.08).

Adjustment over time. Adjustment at the beginning of first semester significantly and positively predicted adjustment at the end of the first semester (b = 0.84, SE = 0.26, p < .001), such that a one-unit increase in adjustment at the beginning of first semester was associated with a 0.84-unit increase in adjustment at the end of first semester. This is a large sized effect (β = .71). Adjustment at the end of first semester did not significantly predict adjustment at the end of second year (b = 0.25, SE = 0.09, p = .19).

Student success into second year. Adjustment at the end of a student's first semester did not significantly predict retention into second year (b = -0.01, SE = 0.03, p = .33), GPA (b = 0.15, SE = 0.12, p = .54), or satisfaction with a one's college experience (b = 0.44, SE = 0.17, p = .21).

Covariance. The final structural equation model indicated that personal talent and intelligence are positively associated ($Cov_{talent,\ intelligence} = 0.07$, $p < .001$) and that good schooling and intelligence are positively associated ($Cov_{good\ school,\ intelligence} = 0.06$, $p < .001$). The final model also indicated that coping self-efficacy and optimism are positively associated ($Cov_{coping,\ optimism} = 0.24$, $p < .001$). Further, parent connections and parenting practices are positively associated ($Cov_{connection,\ parenting} = 0.25$, $p < .001$). Academic adjustment at the beginning of first semester was also found to be positively associated with academic adjustment at the end of first semester ($Cov_{beginning,\ end} = 0.21$, $p < .01$) and academic adjustment at the end of second year ($Cov_{end\ of\ first\ semester,\ end\ of\ second\ year} = 0.02$, $p = .03$). Emotional adjustment at the beginning of first semester was found to be positively associated with emotional adjustment at the end of first

semester ($Cov_{beginning, end}$ = 0.03, p < .01). Finally, social adjustment at the beginning of first semester was also found to be positively associated with social adjustment at the end of first semester ($Cov_{beginning, end}$ = 0.27, p < .01).

Comparison of direct effects by gender. Table 11 reports the direct effects as they vary by males and females.

Males.

Trauma history. Number of traumatic experiences significantly and positively predicted adjustment at the beginning of first semester for males (b = 0.08, SE = 0.05, p = .01), such that a one-unit increase in number of traumatic experiences resulted in a 0.08-unit increase in successful adjustment to the college environment during the beginning of first semester. Meanwhile, trauma severity significantly and negatively predicted adjustment at the end of first semester for males (b = -0.37, SE = 0.16, p = .03), such that a one-unit increase in trauma severity was associated with a 0.37-unit decrease in adjustment at the beginning of first semester for males. The same pattern existed between number of traumatic experiences (b = 0.08, SE = 0.06, p < .001) and severity of traumatic experiences (b = -0.30, SE = 0.18, p < .001) in predicting adjustment at the end of first semester for males. Specifically, a one-unit increase in number of traumatic experiences resulted in a 0.08-unit increase in adjustment at the end of first semester, while a one-unit increase in trauma severity resulted in a 0.30-unit decrease in adjustment at the end of a student's first semester. Adjustment to the college environment at the end of second year was not significantly predicted by number of traumatic events (b = -0.11, SE = 0.08, p = .19) or the severity of one's traumatic experiences (b = 0.01, SE = 0.18, p = .26) for males.

Adjustment at the beginning of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the beginning of first semester for males. Specifically, individual protective factors significantly predicted adjustment at the beginning of the first semester ($b = 3.35$, $SE = 0.20$, $p < .01$), such that a one-unit increase in individual protective factors was associated with a 3.35-unit increase in adjustment. Familial protective factors significantly and positively predicted adjustment at the beginning of first semester for males ($b = 1.41$, $SE = 0.29$, $p < .01$), such that a one-unit increase in familial protective factors was associated with a 1.41-unit increase in adjustment. Finally, community protective factors significantly and negatively predicted adjustment at the beginning of first semester ($b = -2.74$, $SE = 0.21$, $p < .01$), such that a one-unit increase in community protective factors resulted in a 2.74-unit decrease in adjustment.

Adjustment at the end of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the end of the first semester for males. Specifically, individual protective factors significantly predicted adjustment at the end of the first semester ($b = 0.80$, $SE = 0.11$, $p < .01$), such that a one-unit increase in individual protective factors was associated with a 0.80-unit increase in adjustment. Familial protective factors significantly and positively predicted adjustment at the end of first semester for males ($b = 0.67$, $SE = 0.06$, $p < .01$), such that a one-unit increase in familial protective factors was associated with a 0.67-unit increase in adjustment. Finally, community protective factors significantly and negatively predicted adjustment at the end of first semester ($b = -0.43$, $SE = 0.09$, $p < .01$), such that a one-unit increase in community protective factors resulted in a 0.43-unit increase in adjustment.

Adjustment over time. Adjustment at the beginning of the first semester did not significantly predict adjustment at the end of the first semester for males (b = 1.11, SE = 0.31, p = .29). Adjustment at the end of first semester also did not significantly predict adjustment at the end of second year for males (b = 0.10, SE = 0.16, p = .17).

Student success into second year. Adjustment at the end of the first semester did not significantly predict retention into second year (b = -0.05, SE = 0.06, p = .38), GPA (b = -0.18, SE = 0.22, p = .12), or satisfaction with the college experience (b = 0.09, SE = 0.51, p = .85) for males.

Covariance. The final structural equation model indicated that personal talent and intelligence ($Cov_{talent,\ intelligence} = 0.001$, $p < .001$) and that good schooling and intelligence ($Cov_{good\ school,\ intelligence} = 0.06$, $p < .001$) are positively associated for males. The final model also indicated that coping self-efficacy and optimism are positively associated for males ($Cov_{coping,\ optimism} = 0.63$, $p < .01$). Further, parent connections and parenting practices were positively associated ($Cov_{connection,\ parenting} = 0.10$, $p < .01$). Academic adjustment at the beginning of first semester was also found to be positively associated with academic adjustment at the end of first semester for males ($Cov_{beginning,\ end} = 0.37$, $p < .001$). Emotional adjustment at the beginning of first semester was found to be negatively associated with emotional adjustment at the end of second year ($Cov_{beginning,\ end\ of\ second\ year} = -0.03$, $p < .01$). Finally, social adjustment at the beginning of first semester was also found to be positively associated with social adjustment at the end of first semester ($Cov_{beginning,\ end} = 0.40$, $p = .04$) and social adjustment at the end of first semester was positively associated with social adjustment at the end of second year ($Cov_{end\ of\ first\ semester,\ end\ of\ second\ year} = 0.20$, $p = .02$).

Females.

Trauma history. Number of traumatic experiences significantly and positively predicted adjustment at the beginning of first semester for females ($b = 0.02$, $SE = 0.07$, $p < .01$), such that a one-unit increase in number of traumatic experiences resulted in a 0.02-unit increase in successful adjustment to the college environment at the beginning of first semester for females. Meanwhile, trauma severity significantly and negatively predicted adjustment at the beginning of first semester for females ($b = -0.09$, $SE = 0.17$, $p < .01$), such that a one-unit increase in trauma severity was associated with a 0.09-unit decrease in adjustment at the beginning of first semester. The same pattern existed between number of traumatic experiences ($b = 0.10$, $SE = 0.06$, $p < .01$) and severity of traumatic experiences ($b = -0.28$, $SE = 0.15$, $p < .001$) in predicting adjustment at the end of first semester for females. Specifically, a one-unit increase in number of traumatic experiences resulted in a 0.10-unit increase in adjustment at the end of first semester, while a one-unit increase in trauma severity resulted in a 0.28-unit decrease in adjustment at the end of the first semester. Adjustment to the college environment at the end of second year was not significantly predicted by number of traumatic events ($b = 0.03$, $SE = 0.06$, $p = .19$) or the severity of one's traumatic experiences for females ($b = -0.10$, $SE = 0.14$, $p = .26$).

Adjustment at the beginning of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the beginning of first semester for females. Specifically, individual protective factors significantly predicted adjustment at the beginning of the first semester ($b = 0.99$, $SE = 0.88$, $p < .01$), such that a one-unit increase in individual protective factors was associated with a one-unit increase in adjustment. Familial protective factors significantly and positively predicted adjustment at the beginning of first semester for females ($b = 0.28$, $SE = 0.65$, $p < .01$), such that a one-unit

increase in familial protective factors was associated with a 0.28-unit increase in adjustment. Finally, community protective factors significantly and negatively predicted adjustment at the beginning of first semester ($b = -0.27$, $SE = 0.92$, $p < .01$), such that a one-unit increase in community protective factors resulted in a 0.27-unit decrease in adjustment.

Adjustment at the end of first semester. Individual, familial, and community protective factors all significantly predicted adjustment to college at the end of the first semester for females. Specifically, individual protective factors significantly predicted adjustment at the end of the first semester ($b = 0.09$, $SE = 0.05$, $p < .01$), such that a one-unit increase in individual protective factors was associated with a 0.09-unit increase in adjustment. Familial protective factors significantly and positively predicted adjustment at the end of first semester for females ($b = -0.23$, $SE = 0.22$, $p < .01$), such that a one-unit increase in familial protective factors was associated with a 0.23-unit decrease in adjustment. Finally, community protective factors significantly and positively predicted adjustment at the end of first semester ($b = 0.32$, $SE = 0.23$, $p < .01$), such that a one-unit increase in community protective factors resulted in a 0.32-unit increase in adjustment.

Adjustment over time. Adjustment at the beginning of first semester significantly predicted adjustment at the end of the first semester for females ($b = 0.63$, $SE = 0.52$, $p < .001$). Adjustment at the end of first semester did not significantly predict adjustment at the end of second year for females ($b = 0.43$, $SE = 0.10$, $p = .28$).

Student success into second year. Adjustment at the end of a student's first semester did not significantly predict retention into second year ($b = -0.42$, $SE = 0.55$, $p = .37$) or satisfaction with one's college experience ($b = 0.76$, $SE = 0.21$, $p = .7$) for females. However, adjustment at the end of first semester significantly predicted GPA for females ($b = 0.27$, $SE = 0.13$, $p = 0.01$),

such that a one-unit increase in adjustment at the end of first semester was associated with a 0.27-unit increase in GPA.

Covariance. The final structural equation model indicated that parent connections and parenting practices were positively associated for females ($Cov_{connection, parenting} = 0.28$, $p < .01$). Academic adjustment at the beginning of first semester was also found to be positively associated with academic adjustment at the end of first semester for females ($Cov_{beginning, end} = 0.19$, $p < .01$). Emotional adjustment at the beginning of first semester was found to be positively associated with emotional adjustment at the end of first semester ($Cov_{beginning, end} = -0.06$, $p < .01$) and emotional adjustment at the end of first semester was negatively associated with emotional adjustment at the end of second year ($Cov_{end\ of\ first\ semester, end\ of\ second\ year} = -0.01$, $p < .01$). Finally, social adjustment at the beginning of first semester was also found to be positively associated with social adjustment at the end of first semester ($Cov_{beginning, end} = 0.25$, $p < .01$) and social adjustment at the end of first semester was positively associated with social adjustment at the end of second year ($Cov_{end\ of\ first\ semester, end\ of\ second\ year} = 0.11$, $p < .01$).

Mean differences in protective factors for males and females. Independent samples t-tests were conducted to determine what, if any, protective factors were reported more by males than females. To determine equality of variance between males and females, Levene's Test for Equality of Variances was used. Levene's test assesses the equal variance assumption, in which a significant result ($p < .05$) indicates unequal variance between groups (Brown & Forsythe, 1974). Good schooling, Parent Connections, Prosocial Organizations, and Coping Self-Efficacy all met the equality of variance assumption, therefore equal variances were assumed. Results revealed that men reported greater levels of positive parenting practices, $t(895.95) = 3.01$, $p = .01$, $d = 0.12$, self-esteem, $t(805.03) = 6.93$, $p < .001$, $d = 0.31$, personal talent, $t(843.20) = 9.49$, $p < .001$,

d = 0.43, and coping self-efficacy, t(3320) = 6.50, p < .001, d = 0.31. Meanwhile, females reported greater levels of good schooling, t(3320) = -2.21, p = .03, d = 0.10, prosocial adult relationships, t(736.72) = -2.82, p = .01, d = 0.14, and involvement in prosocial organizations, t(3320) = -2.86, p = .004, d = 0.13. Table 12 reports the results of the independent samples t-tests and means for males and females on each protective factor.

CHAPTER IV

Discussion

The primary goal of the present study was to investigate which protective factors are implicated in college success, as defined by a student's social, emotional, and academic adjustment to college during the first semester of the first year. Further, the present study aimed to assess first-year students' academic success, retention, and satisfaction with the college experience after attending university for two years. Specific focus was also paid to how males and females compare regarding the association of protective factors and college adjustment. The study was among the first of its kind, as limited research has been conducted to assess college adjustment over time and gender differences within this process.

Results indicated that individual, familial, and community protective factors predicted successful college adjustment at the beginning and end of a student's first semester. These findings suggest that qualities within the individual, family, and community support initial college adjustment and adjustment over time. This supports prior research that has identified the positive impact of protective factors from various contexts on an individual's ability to adapt to new situations (Benzies & Mychasiuk, 2009; Galatzer-Levy et al., 2012; Luthans et al., 2006; Luthar et al., 2000; Masten, 2013; Newcomb & Bentler, 1987; Robbins et al., 2004). Specifically, the individual protective factors that were found to increase the likelihood of successful adjustment to the college experience included high levels of cognitive functioning, high levels of self-esteem, having a personal talent, coping self-efficacy, and an optimistic outlook.

The familial protective factors that were implicated in successful college adjustment within the present study include positive parental connections, positive parenting practices, and

connections with kin. This provides continued support for the family resilience theory (Amatea et al., 2006), which states that family resources aid in one's ability to overcome life challenges or stressors. Research has shown that individuals who grow up in a family environment that fosters encouragement, emotional connection, organization, and learning opportunities are better able to adjust and cope with life stressors (Amatea et al., 2006; Black & Lobo, 2008; Masten, 2013). Finally, the community protective factors that were identified to aid in successful adjustment include prosocial adult relationships outside of the family, involvement in prosocial organizations, and good schooling. A number of studies have found access to these factors to be protective (Galatzer-Levy et al., 2012; Luthar et al., 2000; Masten, 2013; Masten, 2001; Woolley & Grogan-Kaylor, 2006), thus the present study further supports these findings.

While the present study's findings provide additional support for prior empirical research, it is important to note that majority of this prior research has assessed successful college adjustment despite prior adversity to understand how individuals who have experienced adversity are able to adjust (Cantor & Banyard, 2004; Duncan, 2000; Maples et al., 2014; Meeuwisse et al., 2010; Mohr & Rosén, 2016; Read et al., 2011; Seidman, 2005). However, fewer researchers have studied factors that aid in managing the stress inherent in the adjustment to the college environment itself. Thus, the present study addressed a gap in the literature and increased overall understanding of the general college adjustment process. Specifically, it identified that protective factors from various contexts increase successful adaptation to the college environment, regardless of whether an individual has a history of traumatic experiences.

With limited research on adjustment to the college environment, even less research has evaluated whether initial college adjustment influences retention rates. This study was one among few studies that assessed how initial adjustment to the college environment impacts later

success, such as GPA, retention, and satisfaction with the college experience. The present study found that adjustment at the end of first semester did not predict retention, GPA, or satisfaction with the college experience at the end of second year. It is possible that adjustment during the first semester has less of an impact on long-term success than originally thought. This finding contradicts prior research which has found that social, emotional, and academic adjustment influence academic success and GPA (Arthur et al., 2006; DeBerard et al., 2004; Gerdes & Mallinckrodt, 1994; Krumrei-Mancuso et al., 2013; Pritchard & Wilson, 2003; Rocca, 2010). While the present study's findings were not significant, it is crucial to continue to assess these variables to better understand how adjustment impacts a student's future success. This is an area in the field of psychology that needs further development and replication.

Similarly, minimal research has been conducted on gender differences associated with protective factors and college adjustment (Chandy et al., 1996; Friborg et al., 2003; Hartman et al., 2008; Ogg et al., 2010; Shirley, 2011). Gender similarities and differences have been an increasing topic of debate throughout the psychology field for the past decade. The present research worked to address a gap in the literature regarding the general college adjustment process and whether that varies between males and females. In this study, males and females were found to have similar adjustment outcomes during the first two years of college. Although males reported greater personal talent, self-esteem, and coping self-efficacy than females, there were no gender differences in adjustment outcomes, which supports the gender similarities hypothesis (Hyde, 2005). This provides further evidence that males and females are more alike than they are different.

Trauma History

Trauma history was controlled for in the present study, as previous research has found that trauma history has a significant impact on successful college adjustment (Cantor & Banyard, 2004; Duncan, 2000; Maples et al., 2014; Mohr & Rosén, 2016; Read et al., 2011). Results indicated that having a history of traumatic experiences positively predicted college adjustment at the beginning and end of the first semester in college, such that as the number of traumatic experiences increased, successful college adjustment increased. Meanwhile, the severity of reported experiences negatively predicted college adjustment the beginning and end of a student's first semester, such that as trauma severity increased, successful college adjustment decreased. Trauma history and severity of one's experiences did not significantly predict adjustment into a student's second year. These results imply that trauma history impacts one's ability to initially adjust to the college environment, however may not have an impact on adjustment later in a student's college career. This finding supports previous research that has found trauma history of have a larger impact during initial college adjustment (Cantor & Banyard, 2004; Galatzer-Levy et al., 2012; Read et al., 2011) and research that has supported that the first semester in college is a sensitive adjustment period (Chu, 2016; DeBerard et al., 2004; Hamilton & Hamilton, 2006; Jamelske, 2009; National Student Clearinghouse Research Center, 2016).

Adjustment at the Beginning of First Semester

Individual, familial, and community protective factors all significantly predicted adjustment to college at the beginning of a student's first semester. Specifically, individual protective factors had the largest effect on adjustment at the beginning of the first semester. Thus, protective factors such as intelligence, self-esteem, personal talent, coping self-efficacy,

and optimism have the largest impact on whether a student is able to initially adjust to the college environment. This finding suggests that qualities that exist within the individual best support initial college adjustment. This is a promising finding, as this provides evidence that if an individual builds personal skills, such as coping self-efficacy and optimism, he or she has a greater likelihood of adjusting to the college environment and succeeding academically, emotionally, and socially.

Familial and community protective factors also significantly predicted college adjustment at the beginning of a student's first semester. However, the effect of these protective factors was minimal. Therefore, familial and community protective factors impact successful college adjustment much less than individual protective factors. Familial protective factors positively impacted adjustment at the beginning of first semester, such that as familial protective factors increased, successful adjustment increased. This implies that having family support and connections aid in one's ability to adapt to a new environment. Finally, community protective factors negatively impacted adjustment at the beginning of the semester, such that as community protective factors increased, successful adjustment decreased. While this relationship was significant, it was small in effect size (($\beta = 0.05$). However, this implies that having prosocial adult relationships, being involved in prosocial organizations, and prior good schooling negatively impacts initial college adjustment. This may indicate that if first-year students become involved in various organizations during their initial transition to college, they may not be as successful academically, emotionally, or socially. While involvement in prosocial organizations would likely improve a student's social involvement, it may decrease their focus on academics and increase their stress due to having multiple responsibilities. As a result, students may not adjust well to college academically or emotionally. It is also possible that prior good schooling

could negatively impact a student's transition to college. Although receiving quality education would likely improve a student's academic abilities and commitment, they may not attend to their social or emotional well-being. As a result, a student with prior good schooling experiences may adjust well academically, however not as well emotionally or socially. These results highlight the multifaceted nature of college adjustment, such that students may demonstrate successful adjustment in some domains and not others (Luthar et al., 2000; Masten, 2013).

Adjustment at the End of First Semester

The impact of protective factors on adjustment at the end of a student's first semester were similar to the findings at the beginning of first semester. Again, individual, familial, and community protective factors all significantly predicted adjustment to college at the end of the first semester. However, the effect of all the protective factors on successful adjustment was small. This indicates that protective factors have a lesser impact on adjustment at the end of first semester compared to the beginning of first semester. At the end of first semester, individual and community protective factors positively predicted successful adjustment, such that as individual or community protective factors increased, successful adjustment increased. Meanwhile, familial protective factors negatively predicted successful adjustment, such that as familial protective factors increased, successful adjustment at the end of the semester decreased.

These findings imply that if an individual has positive internal qualities, such as intelligence and self-esteem, they are more likely to succeed academically, emotionally, and socially at the end of his or her first semester. Additionally, if a student is involved in prosocial organizations, develops prosocial adult relationships, or previously had good schooling, he or she is more likely to successfully adjust to the college environment. Conversely, greater familial protective factors are related to worse college adjustment. This makes sense, as students who

have strong familial connections may have difficulty being away from their family and home, especially as they spend more time away. As a result, familial connections may make it more difficult for a student to adjust to the college environment.

Adjustment Over Time

Adjustment at the beginning of first semester positively predicted adjustment at the end of the first semester. However, adjustment at the end of first semester did not significantly predict adjustment at the end of second year. These findings indicate that initial adjustment to the college environment (i.e., adjustment during the first month of college) is important in determining later success. Therefore, it is important for a student to adjust well at the beginning of his or her college transition, as this will have an impact on their ability to succeed later in their first year. While there was not a positive relationship between adjustment at the end of first semester and the end of second year, it is possible this relationship was not significant due to a high attrition rate. It would be expected that adjustment during a student's first year would impact their success in later academic years. Thus, it would be beneficial to replicate the current study to assess whether this result is an artifact of the present dataset.

Student Success into Second Year

Adjustment at the end of a student's first semester did not significantly predict retention, GPA, or satisfaction with one's college experience. It is possible that one's adjustment during their first semester has less of an impact on long-term success than originally thought. For example, an individual may develop several skills that help him or her overcome future barriers to success. Thus, a student who does poorly in his or her first semester will not necessarily perform poorly in later academic years. The student may develop better coping skills to manage stress and challenges in future semesters, therefore allowing him or her to experience greater

success in his or her second year. Conversely, a student who successfully adjusts in his or her first semester will not inevitably do well in future academic years. For example, a student may experience an easy initial transition, however external factors (e.g., family death, personal illness) in later semesters may prevent the student from succeeding academically, socially, or emotionally. Therefore, adjustment during a student's first semester does not predict later academic success, retention, or satisfaction with the college experience. Alternatively, it is possible that attrition in the sample between the end of first semester and end of second semester is causing a nonsignificant effect.

Gender Differences in Overall Model

A primary interest in the present study was to assess gender differences in the overall structural equation model to evaluate whether gender moderates the relationship between protective factors and college adjustment over time. In general, the male model and female model were very similar. A main difference in the models was that adjustment was not significantly related over time in the male model, while in the female model, adjustment at the beginning of first semester predicted adjustment at the end of first semester. Therefore, the positive relationship between adjustment at the beginning and end of first semester in the overall model (Figure 2) is likely driven by females within the sample. This finding could indicate that adjustment during first semester has a greater influence on future success for females than males. The only other gender difference was that adjustment at the end of first semester significantly and positively predicted GPA at the end of second year for females and not for males. This finding implies that initial adjustment to the college environment has a long-term effect on academic success for females, such that better adjustment during the first semester in college predicts higher GPA in future academic years. In general, the fact that the adjustment model for

males and females was largely similar supports the gender similarities hypothesis (Hyde, 2005). However, it is important to be aware that the current sample was predominantly female (83.5%). As such, the following results may be biased by the gender distribution in the sample. It would be important to replicate the following study to assess whether gender differences remain in the overall model.

Mean Differences in Protective Factors for Males and Females

It was hypothesized that familial and extrafamilial protective factors would be significantly associated with successful college adjustment among females more than males (Chandy et al., 1996; Kretchmar, 2009; Lindsey, 2015), whereas individual protective factors would be significantly associated with successful college adjustment among males more than females (Chandy et al., 1996). In addition, it was hypothesized that females would report significantly stronger parental connections (Chandy et al., 1996), prosocial support outside the family context (Eagly, 2013; Friborg et al., 2003; Hartman et al., 2008), self-esteem, religiosity, and good schooling (Hartman et al., 2008) compared to males. Results revealed that males reported greater levels of positive parenting practices, self-esteem, personal talent, and coping self-efficacy. Meanwhile, females reported greater levels of good schooling, prosocial adult relationships, and involvement in prosocial organizations. However, as recommended by Hyde (2005), effect sizes were evaluated. Majority of the gender differences resulted in a small effect size, including positive parenting practices, good schooling, prosocial adult relationships, and involvement in prosocial organizations. Personal talent, self-esteem, and coping self-efficacy were the only gender differences that provided medium effect sizes (effect sizes between 0.31-0.43).

These findings support the research hypothesis that males would report a greater presence of individual protective factors, as males reported higher levels of self-esteem, personal talent, and coping self-efficacy. However, these findings do not support the hypothesis that females would report a greater presence of community protective factors. While females reported significantly higher levels of good schooling, prosocial adult relationships, and involvement in prosocial organizations, these differences were small in magnitude (effect sizes between 0.10-0.14). The finding that males reported greater levels of positive parenting practices was contradictory to the study hypothesis that females would report higher levels of familial protective factors. However, the other familial protective factors, positive parenting and kin connections, were not associated with gender differences. Additionally, the gender difference in positive parenting practices was small in effect size ($d = 0.12$) Therefore, familial and community protective factors may equally impact males and females, while individual protective factors are more associated with successful adjustment in males.

These findings align well with the gender similarities hypothesis (Hyde, 2005). Of the 11 protective factors evaluated, only three resulted in statistically significant and moderately sized gender differences. In the present study, males and females were more alike than they were different, and they were similar in most, but not all, psychological variables. Alternatively, however, these findings are also supportive of gender socialization theories that argue that males and females are socialized to behave in certain ways throughout development that align with culturally constructed views of gender (Kretchmar, 2009; Lindsey, 2015). Specifically, the present study found that males reported greater levels of individual protective factors compared to females. This supports gender research that argues that males are more independent, competitive, and task-oriented (Antonucci & Akiyama, 1987; Eagly, 2013; Kretchmar, 2009;

Lindsey, 2015; Sun & Stewart, 2007). Additionally, it was found that individual protective factors were highly related to successful college adjustment. This indicates that males possess several individual protective factors (i.e., self-esteem, personal talent, coping self-efficacy) that support successful adjustment. Hence, the findings support the gender similarities hypothesis on one hand, and gender socialization theories on the other hand. This illustrates that gender differences are nuanced and must not be oversimplified (e.g., males and females are inherently different vs. males and females are inherently similar). These findings support the need to continue to develop theories that are more sophisticated and research studies that lead to a better understanding of the complexities of gender dynamics that do not fall strictly on the spectrum of differences of similarities. In particular, as it relates to the college adjustment process, it appears that a single theory on either gender similarities or longstanding gender socialization theories are not sufficient to understand the interactions of gender factors and their protective role.

Implications for Practice

The findings of this study are particularly relevant for designing and implementing interventions for first-year college students to reduce attrition or unsuccessful adjustment to the college environment. First and foremost, this study has shown that several factors, both internal and external to first-year students, can increase the likelihood of successful adjustment during a student's transition to college. This is crucial to be aware of, as this provides evidence that interventions and support can be offered to first-year students from a number of sources. This can provide hope to students who yearn to succeed, parents who worry about their child's transition to a new environment, and universities who aim to set students up for success and retention. Thus, a number of intervention and orientation programs should be considered and put into place.

While it is common for students to undergo orientation at the beginning of their first semester at a university, there are several educational components that should be included into these programs. First, it would be beneficial to make the results of the present study easily accessible to students to increase their awareness of factors that have been found to increase overall success. By gaining this knowledge, students may have a better idea of how to best support themselves during a difficult transition and may increase involvement in activities that are associated with better adjustment (e.g., involvement in campus activities or clubs). Further, it is important for students to understand that various sources – individual, familial, and community – can increase well-being and the ability to adapt. Knowing that positive adjustment can stem from different sources may provide reassurance that a lack of protective factors in one domain (i.e., individual, familial, or community) does not inevitably result in failure or the inability to succeed. Rather, students may be able to compensate with protective factors found in other domains. For example, while some students may be very intelligent with high self-esteem, they may have a tumultuous family life that does not provide support, connection, or warmth. The present research shows that such students are still likely to adjust well to the college environment, regardless of the presence of these familial protective factors. This may be comforting to students who possess some protective factors but not all.

Additionally, since involvement in prosocial organizations was found to be predictive of adjustment to college, student organizations and clubs should be advertised widely throughout the university. Students should have access to an organized website that outlines the various ways they can get involved on campus and within the community, as this will likely increase overall adjustment and help establish a sense of belonging. A final student intervention is to replace the commonly held belief that one's success in their first semester is indicative of later

college success. The present study is a direct contradiction to that belief and illustrates that even if students undergo a difficult adjustment process and do not fully adjust academically, socially, /or emotionally, they are still able to succeed in later semesters. This may be relieving for students to know, as a large amount of pressure is placed on performance during the first year (Dyson & Renk, 2006; Hurst et al., 2013).

Beyond student interventions, it is important to consider resources that can be offered to parents. It would likely be beneficial to organize orientation programs for parents of college students as well. This would allow the present research to be reviewed, which can highlight ways in which a parent can support their child through this transition. This may help parents better understand the adjustment process their child is going through and address ways they can ease that process to encourage student success.

Finally, universities would benefit from knowing that interventions promoting positive adjustment to the college environment need not be designed to address separate processes for males and females. Based on the present research and research supporting the gender similarities hypothesis (Hyde, 2005), males and females undergo a similar adjustment process and experience similar adjustment outcomes. Thus, universities can provide general interventions and feel confident that they will be helpful for students regardless of the student's gender identity.

Limitations and Directions for Future Research

One of the biggest limitations in the present study was that measurement invariance was not met. Measurement invariance assumes that the relationships among latent variables remain constant over time. However, in the present study, measurement invariance testing indicated that configural invariance was not present over time for the adjustment latent variables. This indicates that the factor structure, loadings, and intercepts for the three adjustment latent variables vary

over time. Therefore, the adjustment latent variables have different meanings over time and do not model true differences in the sample over time. Previous studies have shown that when longitudinal measurement invariance is violated, that parameter estimates are biased and inaccurate conclusions about growth can be made (Leite, 2007). Since longitudinal invariance was not met for the adjustment variables, it is unclear whether any changes in adjustment over time are due to changes in the target variable or due to characteristics of the CAQ (Eid & Diener, 2006; Widaman, Ferrer, & Conger, 2010). It is likely that attrition over time negatively impacted longitudinal measurement invariance.

Since measurement invariance did not hold in the present sample, changes in adjustment over time cannot be calculated, as they are biased and untrustworthy. It would be beneficial to replicate the present study with a larger sample, and ideally with less attrition, in order to assess whether longitudinal measurement invariance is met and to draw conclusions about how adjustment changes during the first two years of students' college experience. This would provide further information about whether lower/higher adjustment during the first semester of college is correlated with lower/high adjustment later in one's college career.

A further limitation for this study relates to the sample demographics. Since the sample was predominantly White (75.6%), we do not know how these results would generalize to various other ethnic groups. In addition, the fact that the sample was predominantly female (83.5%), means that the results may not generalize to male college students. For example, the present study results may relate to female adjustment to the college environment and not to male adjustment. In addition, the unequal gender distribution also limits the ability to assess gender differences. It would be beneficial to assess a more ethnically diverse and gender equivalent sample.

An additional limitation was the study's sample size. With the hypothesized structural equation model, it would have been ideal to have at least 600 participants. However, the study resulted in a 303-person sample at baseline and a 116-person sample at follow-up. Having a larger sample size and less attrition would have allowed researchers to have greater confidence that the present findings generalize to the overall college student population, rather than being an artifact of the present sample. It would be beneficial to replicate the present study with a larger, more diverse sample.

Another important limitation relates to attrition. Three-hundred and three participants completed the first two parts of the study, however there was a 62% attrition rate for the final data collection period. While data was imputed for missing values, it is unclear what the actual data would have been and how it would have differed from the imputed data. It is difficult to know if those who dropped out of the study would have demonstrated different trends in adjustment to the college environment. It is also unclear why these participants dropped out of the study; they may have left the university, which would have provided important information about which variables aid in retention versus attrition.

A final limitation of this study was the precision of the instruments used. The validity of the measurement tools, particularly the SERI, is questionable. While previous studies have found this measure to be valid (full scale reliability was found to be 0.95; Mohr & Rosén, 2012), it is important to assess whether the measure is actually capturing the underlying construct of protective factors. For example, the factors "intelligence" and "talent" may not measure true intelligence or level of talent, as they are self-reports. Instead, these measures are capturing perceived views of intelligence and talent. Also of importance, is the likelihood that perceived intelligence has minimal variance in a college population. Therefore, the sampled population will

likely show a narrow range of elevated levels of intelligence based on their environment. In addition, "talent" was a vague factor within this measure, as it is unclear what form of talent this dimension is measuring. As a result, the definition of talent may have varied widely throughout the sample, making it difficult to interpret what this factor measures.

The present study did not ask participants whether they were first generation students. Future research should assess whether first-generation status impacts college adjustment, specifically if first generation students have a different adjustment process compared to non-first-generation students. This is particularly important since undergraduate attrition rates have been found to be much higher among first-generation students than non-first-generation students. Specifically, research has shown that first-generation students are approximately twice as likely than non-first-generation students to leave after their first year in college (Ishitani, 2006; Soria & Stebleton, 2012; Swecker, Fifolt, & Searby, 2013). With first-generation students representing approximately 30% of students attending U.S. colleges and universities (Swecker et al., 2013; Weaver, 2011), it is crucial to understand factors that aid in successful adjustment compared to factors that lead to attrition. Future studies should assess the impact of first-generation status on college adjustment, so intervention strategies can be employed to assist these students with successful adjustment.

TABLES

Table 1

Final Factor Loadings for Latent Variables in the Hypothesized Structural Equation Model

Latent Variable	Factor Loading
Individual Protective Factors	
Intelligence	0.62
Self-Esteem	0.90
Personal Talent	0.62
Optimism	0.68
Coping Self-Efficacy	0.79
Familial Protective Factors	
Parenting Practices	0.85
Parent Connections	0.90
Kin Connections	0.53
Community Protective Factors	
Prosocial Adult Relationships	0.66
Prosocial Organizations	0.45
Good Schooling	0.60
Adjustment - Beginning of First Semester	
Academic Adjustment	0.53
Social Adjustment	0.45
Emotional Adjustment	0.79
Adjustment - End of First Semester	
Academic Adjustment	0.55
Social Adjustment	0.62
Emotional Adjustment	0.87
Adjustment - End of Second Year	
Academic Adjustment	0.44
Social Adjustment	0.41
Emotional Adjustment	0.46

Table 2

Summary of Model Fit Statistics for Structural Equation Model as Paths are Added

	χ^2 Model Fit	df	RMSEA	SRMR	CFI	TLI
Controlling for Trauma on All Adjustment Latent Variables	741.54**	198	0.10 [0.09, 0.10]	0.15	0.74	0.69
Adjustment at the Beginning of First Semester → Adjustment at the End of First Semester	754.95**	199	0.10 [0.09, 0.10]	0.15	0.73	0.69
Individual Protective Factors → Adjustment at the End of First Semester	746.71**	198	0.10 [0.09, 0.10]	0.14	0.73	0.69
Familial Protective Factors → Adjustment at the End of First Year	746.36**	197	0.10 [0.09, 0.10]	0.14	0.73	0.69
Community Protective Factors → Adjustment at the End of First Semester	746.04**	196	0.10 [0.09, 0.10]	0.14	0.73	0.69
Adjustment at the End of First Semester→ Adjustment at the End of Second Semester	730.19**	196	0.10 [0.09, 0.10]	0.13	0.74	0.70
Adjustment at the End of First Semester→ Retention	690.41**	196	0.09 [0.08, 0.09]	0.13	0.75	0.71
Adjustment at the End of First Semester → GPA	675.90**	216	0.08 [0.07, 0.09]	0.13	0.76	0.72
Adjustment at the End of First Semester → Satisfaction with College Experience	680.17**	236	0.07 [0.07, 0.08]	0.12	0.77	0.73
Talent ↔ Intelligence	667.90**	256	0.07 [0.07, 0.08]	0.12	0.78	0.74
Coping ↔ Optimism	663.93**	255	0.07 [0.07, 0.08]	0.12	0.78	0.74
Parent Connection ↔ Parenting Practices	624.42**	254	0.07 [0.06, 0.07]	0.12	0.80	0.76
Intelligence ↔ Good Schooling	598.85**	252	0.07 [0.06, 0.07]	0.12	0.81	0.78
Covariance between Academic, Emotional, and Social Adjustment at Time 1, 2, and 3	449.32**	243	0.05 [0.05, 0.06]	0.12	0.89	0.86
All Protective Factors → Adjustment at the Beginning of First Semester	344.43**	240	0.04 [0.03, 0.05]	0.06	0.94	0.93

Note. **p <.001.

Table 3

Gender Invariance Testing for the Individual Protective Factors Latent Variable After Adding Covariance Between Intelligence and Personal Talent and Between Coping Self-Efficacy and Optimism

	χ^2 Model Fit	df	p-value
Configural Invariance	8.14	6	0.23
Metric Invariance	13.89	10	0.18
Scalar Invariance	20.91	14	0.10
Metric v. Configural Invariance	5.76	4	0.22
Scalar v. Configural Invariance	12.77	8	0.12
Metric v. Scalar Invariance	7.01	4	0.14

Table 4

Gender Invariance Testing for the Familial Protective Factors Latent Variable

	χ^2 Model Fit	df	p-value
Configural Invariance	0.19	2	0.91
Metric Invariance	4.28	4	0.37
Scalar Invariance	6.79	6	0.34
Metric v. Configural Invariance	4.09	2	0.13
Scalar v. Configural Invariance	6.60	4	0.16
Metric v. Scalar Invariance	2.52	2	0.28

Table 5

Gender Invariance Testing for the Community Protective Factors Latent Variable

	χ^2 Model Fit	df	p-value
Configural Invariance	2.51	2	0.28
Metric Invariance	4.30	4	0.37
Scalar Invariance	4.79	6	0.57
Metric v. Configural Invariance	1.79	2	0.41
Scalar v. Configural Invariance	2.28	4	0.69
Metric v. Scalar Invariance	0.48	2	0.78

Table 6

Gender Invariance Testing for Adjustment at the Beginning of First Semester

	χ^2 Model Fit	df	p-value
Configural Invariance	0.34	2	0.84
Metric Invariance	1.41	4	0.84
Scalar Invariance	2.24	6	0.90
Metric v. Configural Invariance	1.07	2	0.59
Scalar v. Configural Invariance	1.90	4	0.75
Metric v. Scalar Invariance	1.83	2	0.66

Table 7

Gender Invariance Testing for Adjustment at the End of First Semester

	χ^2 Model Fit	df	p-value
Configural Invariance	6.12	2	0.05
Metric Invariance	7.84	4	0.10
Scalar Invariance	8.53	6	0.20
Metric v. Configural Invariance	1.72	2	0.43
Scalar v. Configural Invariance	2.41	4	0.66
Metric v. Scalar Invariance	0.69	2	0.71

Table 8

Gender Invariance Testing for Adjustment at the End of Second Year

	χ^2 Model Fit	df	p-value
Configural Invariance	1.80	2	0.41
Metric Invariance	6.17	4	0.19
Scalar Invariance	9.26	6	0.16
Metric v. Configural Invariance	4.37	2	0.11
Scalar v. Configural Invariance	7.46	4	0.11
Metric v. Scalar Invariance	3.08	2	0.21

Table 9

Longitudinal Invariance Testing for Adjustment Latent Variables

	χ^2 Model Fit	df	RMSEA	SRMR	CFI	TLI
Beginning of First Semester v. End of First Semester	315.99**	11	0.30 [0.27, 0.33]	0.69	0.44	0.24
Beginning of First Semester v. End of Second Year	73.59**	11	0.14 [0.11, 0.17]	0.12	0.55	0.38
All Time Points	167.59**	21	0.15 [0.13, 0.17]	0.49	0.72	0.52

Note. **p<.001

Table 10

Direct Effects in the Final Structural Equation Model

	b	SE	β
Total Trauma Experience → Adj1	0.03**	0.04	0.16
Trauma Severity → Adj1	-0.15**	0.10	0.30
Total Trauma Experience → Adj2	0.08*	0.05	0.27
Trauma Severity → Adj2	-0.22*	0.13	0.33
Total Trauma Experience → Adj3	0.001	0.06	0.02
Trauma Severity → Adj3	-0.01	0.15	0.05
IPF → Adj1	0.73*	0.20	0.71
FPF → Adj1	0.09**	0.29	0.09
CPF → Adj1	-0.03**	0.21	0.05
IPF → Adj2	0.12*	0.34	0.09
FPF → Adj2	-0.13**	0.43	0.09
CPF → Adj2	0.06**	0.32	0.08
Adj1 → Adj2	0.84*	0.26	0.71
Adj2 → Adj3	0.25	0.09	0.42
Retention → Adj2	-0.01	0.03	0.04
GPA → Adj2	0.15	0.12	0.12
College Satisfaction → Adj2	0.44	0.17	0.22
Talent ↔ Intelligence	0.07**	0.02	0.22
Coping ↔ Optimism	0.24**	0.50	0.14
Parent Connection ↔ Parenting Practices	0.25**	0.06	0.68
Intelligence ↔ Good Schooling	0.06**	0.01	0.32
AA1 ↔ AA2	0.21*	0.03	0.46
AA1 ↔ AA3	0.02*	0.02	0.07
AA2 ↔ AA3	0.08	0.03	0.18
EA1 ↔ EA2	0.03*	0.04	0.15
EA1 ↔ EA3	0.01	0.03	0.06
EA2 ↔ EA3	0.01	0.03	0.04
SA1 ↔ SA2	0.27**	0.04	0.48
SA1 ↔ SA3	0.13	0.03	0.34
SA2 ↔ SA3	0.14	0.01	0.33

Note. *p <.05, **p <.001

IPF = Individual Protective Factors, FPF = Familial Protective Factors, CPF = Community Protective Factors, Adj1 = Adjustment at the beginning of first semester, Adj2 = Adjustment at the end of first semester, Adj3 = Adjustment at the end of second year, AA1/EE1/SA1 = Academic/emotional/social adjustment at beginning of first semester, AA2/EA2/SA2 = Academic/emotional/social adjustment at end of first semester, AA3/EA3/SA3 = Academic/emotional/social adjustment at end of second year.

Table 11

Gender Differences in the Final Structural Equation Model

	Male				Female		
	b	SE	β		b	SE	β
Total Trauma Experience → Adj1	0.08*	0.05	0.34		0.02*	0.07	0.05
Trauma Severity → Adj1	-0.37*	0.16	0.65		-0.09*	0.17	0.25
Total Trauma Experience → Adj2	0.08*	0.06	0.29		0.10*	0.06	0.22
Trauma Severity → Adj2	-0.30*	0.18	0.45		-0.28**	0.15	0.61
Total Trauma Experience → Adj3	-0.11	0.08	0.19		0.03	0.06	0.10
Trauma Severity → Adj3	0.01	0.18	0.36		-0.10	0.14	0.4
IPF → Adj1	3.35*	0.20	0.68		0.99*	0.88	0.98
FPF → Adj1	1.41*	0.29	0.54		0.28*	0.65	0.25
CPF → Adj1	-2.74*	0.21	0.67		-0.27*	0.92	0.39
IPF → Adj2	0.80*	0.11	0.87		0.09*	0.05	0.07
FPF → Adj2	0.67*	0.06	0.44		-0.23*	0.22	0.17
CPF → Adj2	-0.43*	0.09	0.55		0.32*	0.23	0.37
Adj1 → Adj2	1.11	0.31	0.14		0.63**	0.52	0.51
Adj2 → Adj3	0.10	0.16	0.15		0.43	0.10	0.74
Retention → Adj2	-0.05	0.06	0.04		-0.42	0.55	0.19
GPA → Adj2	-0.18	0.22	0.04		0.27*	0.13	0.20
College Satisfaction → Adj2	0.09	0.51	0.10		0.76	0.21	0.34
Talent ↔ Intelligence	0.001**	0.04	0.01		0.05	0.03	0.18
Coping ↔ Optimism	0.63*	0.28	0.07		0.1	0.10	0.21
Parent Connection ↔ Parenting Practices	0.10*	0.06	0.01		0.28*	0.04	0.72
Intelligence ↔ Good Schooling	0.06**	0.03	0.09		0.04	0.01	0.24
AA1 ↔ AA2	0.37**	0.09	0.70		0.19*	0.04	0.42
AA1 ↔ AA3	0.03	0.07	0.08		0.02	0.03	0.06
AA2 ↔ AA3	0.14	0.12	0.14		0.05	0.03	0.10
EA1 ↔ EA2	0.12	0.13	0.57		0.06*	0.04	0.21
EA1 ↔ EA3	-0.03*	0.05	0.02		-0.01	0.03	0.04
EA2 ↔ EA3	-0.01	0.08	0.28		-0.01*	0.03	0.03
SA1 ↔ SA2	0.40*	0.12	0.49		0.25*	0.05	0.45
SA1 ↔ SA3	0.20	0.08	0.49		0.12	0.03	0.32
SA2 ↔ SA3	0.20*	0.08	0.39		0.11*	0.04	0.25

Note. *p <.05, **p <.001

IPF = Individual Protective Factors, FPF = Familial Protective Factors, CPF = Community Protective Factors, Adj1 = Adjustment at the beginning of first semester, Adj2 = Adjustment at the end of first semester, Adj3 = Adjustment at the end of second year, AA1/EE1/SA1 = Academic/emotional/social adjustment at beginning of first semester, AA2/EA2/SA2 = Academic/emotional/social adjustment at end of first semester, AA3/EA3/SA3 = Academic/emotional/social adjustment at end of second year.

Table 12

Independent Samples t-test Results Comparing Males and Females on Self-Report of Protective Factors

Protective Factor	Gender	Mean	*SD*	*t*	*df*
Intelligence	Male	4.09	0.59	1.62	740.83
	Female	4.04	0.57	-	-
Parenting Practices	Male	4.59	0.51	3.01**	895.95
	Female	4.52	0.63	-	-
Good Schooling	Male	4.38	0.53	-2.21*	3320
	Female	4.43	0.40	-	-
Self-Esteem	Male	3.93	0.81	6.93**	805.03
	Female	3.67	0.88	-	-
Personal Talent	Male	4.11	0.77	9.49**	843.20
	Female	3.75	0.89	-	-
Kin Connections	Male	3.80	1.08	-1.02	737.22
	Female	3.91	1.03	-	-
Parent Connections	Male	4.28	0.84	-1.28	3320
	Female	4.33	0.83	-	-
Prosocial Adult Relationships	Male	3.88	0.91	-2.82*	736.72
	Female	4.00	0.86	-	-
Prosocial Organizations	Male	3.14	1.15	-2.86*	3320
	Female	3.28	1.07	-	-
Coping Skills	Male	204.41	43.62	6.50**	3320
	Female	190.92	44.21	-	-
Optimism	Male	20.29	4.02	1.95	863.38
	Female	19.91	4.80	-	-

Note. *p <.05, **p <.001

FIGURES

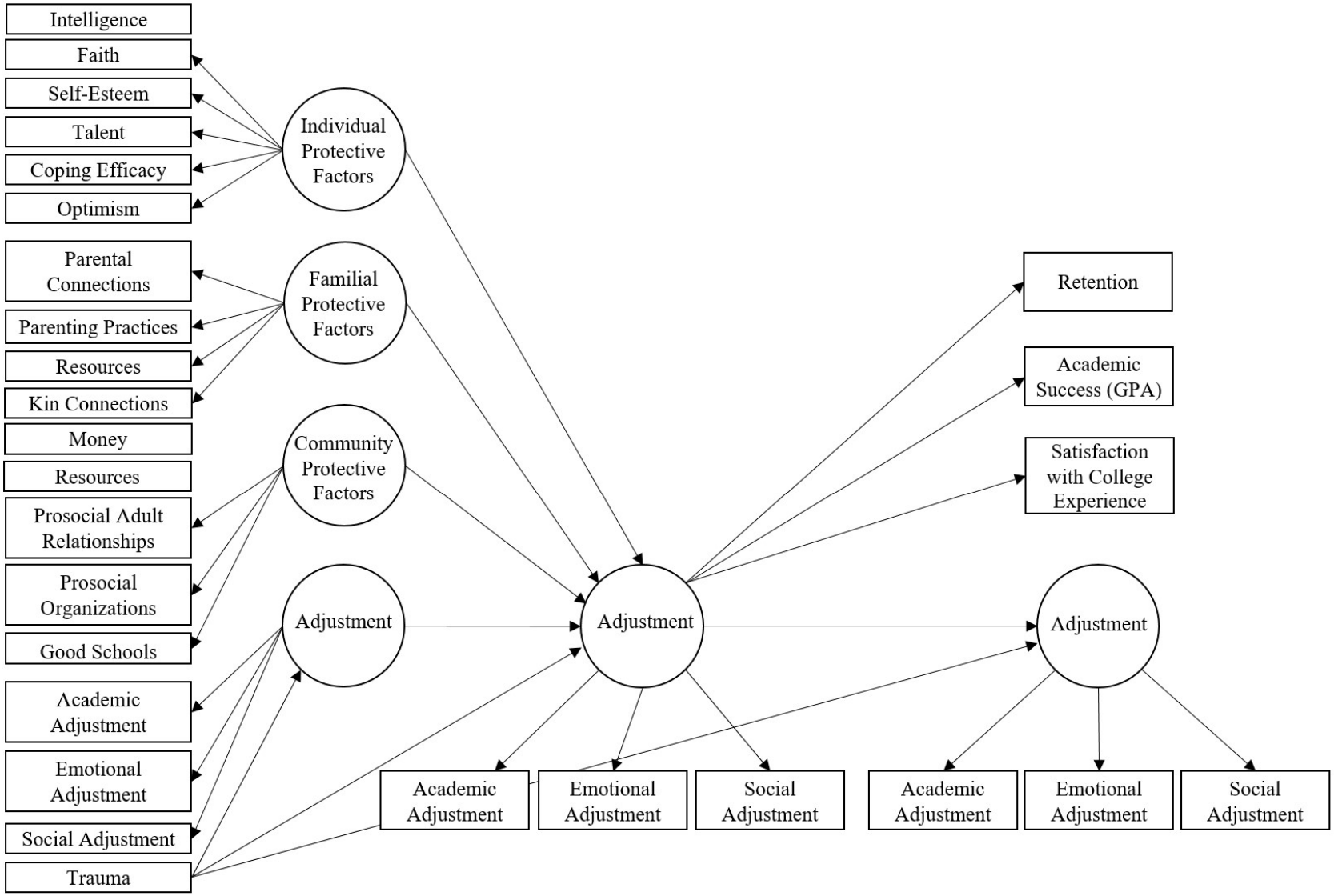

Figure 1. Hypothesized structural equation model showing individual protective factors, familial protective factors, and community protective factors predicting adjustment to the college environment. Trauma is included in the model to control for its influence on college adjustment. Additionally, this model hypothesizes adjustment at the end of the first-semester predicting retention, academic success, satisfaction with the college experience, and adjustment into the second-year.

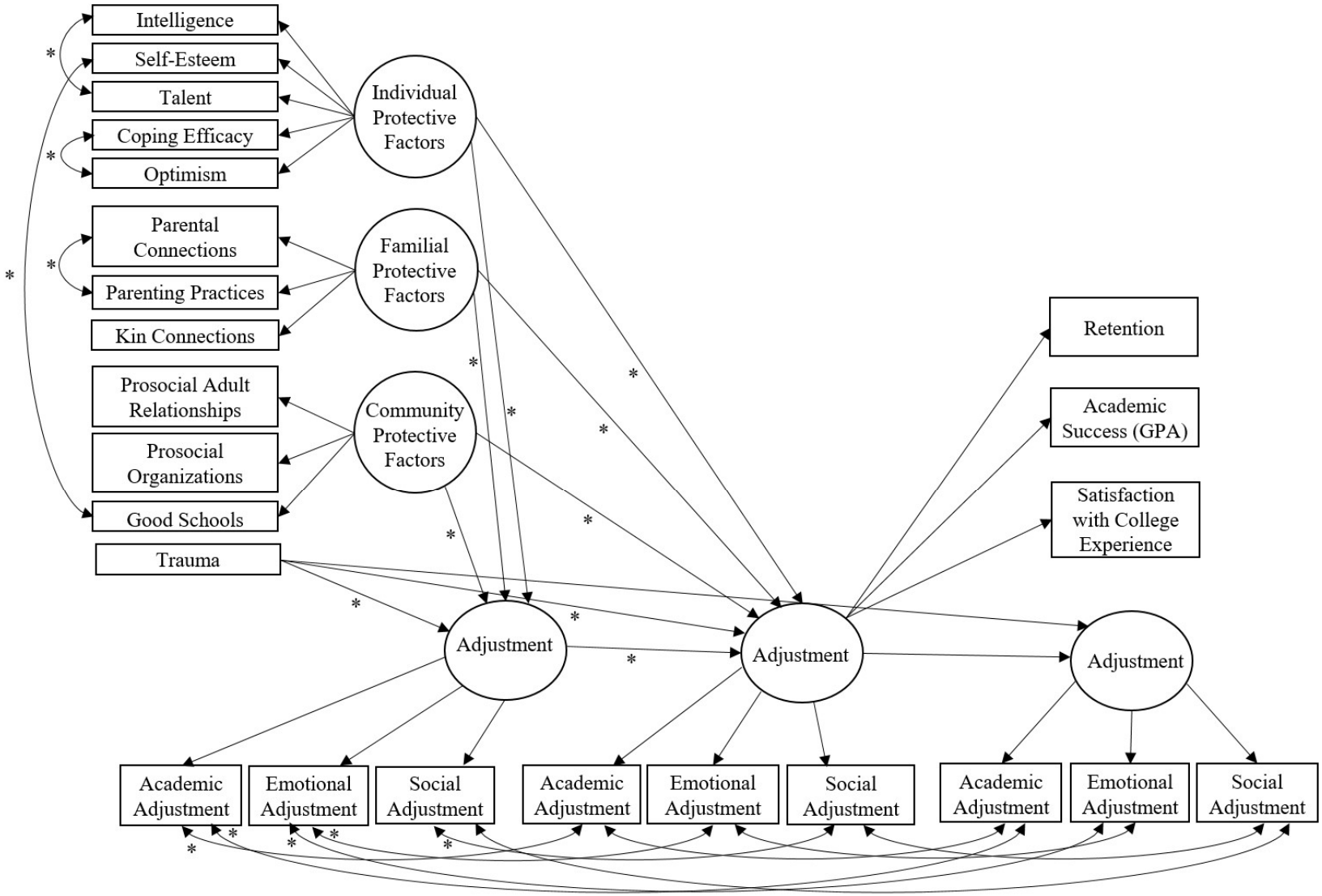

Figure 2. Final structural equation model showing how protective factors predict adjustment to the college environment and how adjustment during the first semester of college predicts later college success, as defined by college retention, GPA, and satisfaction with the college experience. All significant paths ($p < .05$) are marked with an asterisk (*).

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APPENDICES

APPENDIX A

College Adjustment Questionnaire (CAQ)

Listed below are some statements that describe how college students might be feeling about their experience with college. **Please use the rating scale below to indicate how accurately each statement describes you *at this point in time.*** Please read each statement carefully, and then circle the number that corresponds to how accurately the statement describes you.

Response Options

0: Very Inaccurate
1: Moderately Inaccurate
2: Neither Inaccurate nor Accurate
3: Moderately Accurate
4: Very Accurate

Right now:	Very Inaccurate				Very Accurate
1. I am succeeding academically	0	1	2	3	4
2. I don't have as much of a social life as I would like	0	1	2	3	4
3. I feel that I am doing well emotionally since coming to college	0	1	2	3	4
4. I am happy with my social life at college	0	1	2	3	4
5. I am doing well in my classes	0	1	2	3	4
6. I am happy with how things have been going in college	0	1	2	3	4
7. I am happy with the grades I am earning in my classes	0	1	2	3	4
8. I feel that I am emotionally falling apart in college	0	1	2	3	4
9. I have had a hard time making friends since coming to college	0	1	2	3	4
10. I am as socially engaged as I would like to be	0	1	2	3	4
11. I have felt the need to seek emotional counseling since coming to college	0	1	2	3	4
12. I am meeting my academic goals	0	1	2	3	4
13. I have performed poorly in my classes since starting college	0	1	2	3	4
14. I am satisfied with my social relationships	0	1	2	3	4

APPENDIX B

Social Emotional Resources Inventory (SERI)

The following statements describe things that may or may not have been true of you while you were growing up. **Please use the rating scale below to indicate how accurately each statement describes you.** Please read each statement carefully, and then circle the number that corresponds to how accurately the statement describes you.

Response Options
1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

I am:	Very Inaccurate				Very Accurate
1. I am intelligent	1	2	3	4	5
2. I receive warm parenting	1	2	3	4	5
3. My school meets students' academic needs	1	2	3	4	5
4. I have strong self-confidence	1	2	3	4	5
5. I have a talent (i.e., talented in sports, music, drama, academics, etc.)	1	2	3	4	5
6. I have positive connections to my extended family (e.g., grandparents, aunts, uncles, etc.)	1	2	3	4	5
7. I have a strong sense of faith or spirituality	1	2	3	4	5
8. I feel connected to a parent/guardian	1	2	3	4	5
9. My family does not have to worry excessively about money	1	2	3	4	5
10. I am smart	1	2	3	4	5
11. My parents are loving	1	2	3	4	5
12. I have an adult mentor other than my parents	1	2	3	4	5
13. I am receiving a good education	1	2	3	4	5
14. I feel positively about myself	1	2	3	4	5

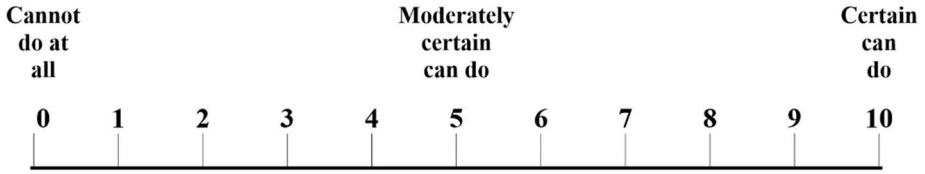
15. I am skilled in at least one activity	1	2	3	4	5
16. My faith or spirituality is important to me	1	2	3	4	5
17. My family is financially comfortable	1	2	3	4	5
18. I am bright	1	2	3	4	5
19. I am emotionally close to my parents	1	2	3	4	5
20. An adult outside of my family motivates me to succeed	1	2	3	4	5
21. My school has skilled teachers	1	2	3	4	5
22. I have high self-esteem	1	2	3	4	5
23. My family has access to adequate health care	1	2	3	4	5
24. Others notice my special ability in an activity (e.g., sports, music, drama, academics, etc.)	1	2	3	4	5
25. I can depend on family members other than my parents and siblings	1	2	3	4	5
26. Religion/spirituality is a central part of my life	1	2	3	4	5
27. I have a parent/guardian I can rely on	1	2	3	4	5
28. My family is able to afford the things we need	1	2	3	4	5
29. I am involved in groups that serve others	1	2	3	4	5
30. My parents are emotionally available	1	2	3	4	5
31. There is an adult outside my family who cares about me	1	2	3	4	5
32. I believe in myself	1	2	3	4	5
33. My family and I have access to good health services	1	2	3	4	5
34. I have a skill that I am proud of	1	2	3	4	5
35. I feel that my extended family is there for me	1	2	3	4	5
36. I attend religious services	1	2	3	4	5
37. I am connected to my family	1	2	3	4	5
38. I am involved in a group that does good things for the community	1	2	3	4	5
39. I am doing well academically	1	2	3	4	5
40. My parents care about me	1	2	3	4	5
41. Someone other than family makes sure that I am okay	1	2	3	4	5
42. I learn a lot at school	1	2	3	4	5
43. I view myself as a capable individual	1	2	3	4	5
44. I feel that there is something special I can do	1	2	3	4	5

(i.e., I am talented at something)					
45. My extended family is there for me when my parents cannot be	1	2	3	4	5
46. I believe in a higher power or spiritual energy	1	2	3	4	5
47. My parent(s) make enough money at their job for my family to be able to live comfortably	1	2	3	4	5
48. I am involved with a group or organization that focuses on helping others	1	2	3	4	5
49. I am seen as “talented”	1	2	3	4	5
50. I take comfort in my faith or spirituality	1	2	3	4	5

APPENDIX C

Coping Self-Efficacy Scale (CSES)

When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following:



1. Break an upsetting problem down into smaller parts
2. Sort out what can be changed, and what cannot be changed
3. Make a plan of action and follow it when confronted with a problem
4. Leave options open when things get stressful
5. Think about one part of the problem at a time
6. Find solutions to your most difficult problems
7. Resist the impulse to act hastily when under pressure
8. Try other solutions to your problems if your first solutions don't work
9. Talk positively to yourself
10. Stand your ground and fight for what you want
11. See things from other person's point of view during a heated argument
12. Develop new hobbies or recreations
13. Make unpleasant thoughts go away
14. Take your mind off unpleasant thoughts
15. Stop yourself from being upset by unpleasant thoughts
16. Keep from feeling sad
17. Keep from getting down in the dumps
18. Look for something good in a negative situation
19. Keep yourself from feeling lonely
20. Visualize a pleasant activity or place
21. Pray or meditate
22. Get friends to help you with the things you need
23. Get emotional support from friends and family
24. Make new friends
25. Do something positive for yourself when you are feeling discouraged
26. Get emotional support from community organizations or resources

APPENDIX D

Life Orientation Test – Revised (LOT-R)

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

1 = I agree a lot
2 = I agree a little
3 = I neither agree nor disagree
4 = I disagree a little
5 = I disagree a lot

Currently, I feel:

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax.
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
5. I enjoy my friends a lot.
6. It's important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don't get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

APPENDIX E

Trauma History Questionnaire (THQ)

Have you ever experienced any of the following events? (Check all that apply)

1) Death of a close loved one _____

- If yes, rate the severity of this event in terms of personal distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

2) Very serious medical problem _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1**– *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

3) Close friend, significant other, or family member experienced a serious medical condition ___

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

4) Accident that led to serious injury to yourself or someone close to you _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

5) Place of residence being damaged by fire or other natural causes _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

6) Endured a divorce _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

7) Physically assaulted _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

8) Sexually assaulted _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

9) Victim of a crime such as robbery or mugging _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

10) Being stalked _____

- If yes, rate the severity of this event in terms of levels of distress (circle number).

0 – *Not at all* **1** – *Very small* **2** – *Small* **3** – *Moderate* **4** - *Extreme*

APPENDIX F

Satisfaction With Life Survey (SWLS)

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by selecting the number that most accurately represents your experience in college. Please be open and honest in your responding.

1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Neither agree nor disagree
5 = Slightly agree
6 = Agree
7 = Strongly agree

____ In most ways, my college experience is close to my ideal.

____ The conditions of my college experience are excellent.

____ I am satisfied with my college experience.

____ So far, I have gotten the important things I want during my college experience.

____ If I could live my college experience over, I would change almost nothing.