DISSERTATION

RESILIENCE TO CHILDHOOD ABUSE AND NEGLECT IN COLLEGE STUDENTS

Submitted by

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In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2012

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ABSTRACT

RESILIENCE TO CHILDHOOD ABUSE AND NEGLECT IN COLLEGE STUDENTS

Research on outcomes of childhood maltreatment tends to examine only one type of maltreatment (usually sexual abuse) and generally ignores gender differences in resilience by failing to consider outcomes for men and women separately. This study sought to address those issues by examining the prevalence of maltreatment in a college sample and identifying the relationship between maltreatment and college adjustment in men and women. Results indicate that maltreated men in college have more resilient outcomes than maltreated women in college and several reasons for this difference were discussed. Overall, negative life events and social/emotional resources are thought to be two important variables in understanding the relationship between maltreatment and adjustment. Future studies can extend the results of this study by examining maltreatment in both college and community samples, collecting data from a larger sample of individuals, and perhaps using a more stringent criterion for classifying maltreatment in the sample.

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CHAPTER I

Introduction

Research on abuse and neglect has consistently found that many children who are neglected and abused experience serious negative effects on their social and emotional functioning. The effects of abuse and neglect tend to be long-term and contribute to poor adjustment and functioning in victimized children even as adults (Collishaw, Pickles, Messer, Rutter, Shearer, & Maughan, 2007; Malinosky-Rummell & Hansen, 1993; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Research on child abuse and neglect, however, has also revealed that some children do not seem to be negatively impacted in the long run by their experience with early adversity and instead, over time, appear to function as well as their non-maltreated peers (Collishaw et al., 2007; MacMillan, Fleming, Steiner, Lin, Boyle, Jamieson, et al., 2001; McGloin & Widom, 2001; Mullen et al., 1996; Walsh, Dawson, & Mattingly, 2010). A resilience framework has been used to explain the hardiness of these children and has informed much of the research on this topic in recent years.

Resilience is often described as "manifested competence in the context of significant challenges to adaptation or development" (Masten & Coatsworth, 1998, pp. 206) and has its roots in the study of psychopathology in "at-risk" children. As researchers began to recognize that a number of children were developing competently despite the adversity they faced, attention shifted from simply examining the deleterious outcomes of "at-risk" children and refocused on understanding the hardiness or *resilience* of those children who were doing well.

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Researchers also began to examine the factors that promote healthy development in resilient children, which resulted in the identification of numerous "protective factors" that are typically grouped into three broad categories: individual, family, and community factors (Masten & Coatsworth, 1998).

Protective factors have typically been identified by finding features of the individual, family, or environment that are positively correlated with good outcomes for general types of childhood trauma (i.e., divorce, death of a parent or sibling, poverty, and serious illness). According to Masten and Coatsworth (1998), "results of these studies have been remarkably consistent in pointing to qualities of child and environment that are associated in many studies with competence or better psychological functioning during or following adverse experiences" (pp. 212). Research specifically examining resilience to childhood abuse and neglect, however, has been less extensive. Of those studies with a specific focus on abused and neglected children, most have examined resilience to childhood sexual abuse, which has been argued by many to be "too narrow in focus to provide a general indication of the protective factors that are associated with resilience to various other forms of maltreatment" (Shirley & Rosén, 2010, pg. 2). Additionally, recent movements in the field of resilience research have emphasized taking a lifespan approach to examining the protective factors associated with good outcomes for individuals with maltreatment histories, as little is known about the factors that contribute to long-term resilience (Allen, 2008; Arata, Langhinrichsen-Rohling, Bowers, & O'Farrill-Swails, 2005).

The present study seeks to elucidate the protective factors that are associated with resilience in college students who were abused and neglected in childhood, as well as examine potential gender differences in factors that are reported. This study also seeks to build on the

work of Shirley and Rosén (2010) by using the measures they developed to examine maltreatment and resilience in college students.

Childhood Abuse and Neglect

Nearly three-quarters of a million reports of child abuse and neglect were substantiated by Child Protective Services across the country in 2008 (U.S. Department of Health and Human Services, 2010). Of that number, 71.1% of the reported children suffered neglect, 16.1% were physically abused, 9.1% were sexually abused, and 7.3% were emotionally or psychologically maltreated. Unfortunately, these statistics are likely an underrepresentation of the true prevalence of maltreatment, given that many cases of neglect and abuse are not reported, reported but not investigated, or reported and investigated but not substantiated due to lack of evidence.

Independent research has yielded varying life-time prevalence rates of childhood abuse and neglect. For example, Zielinski (2009) recently reported finding a prevalence of 13.8% for maltreatment in a sample of about 5,000 adults. Another researcher, commenting on the work of Zielinski, noted that this rate was consistent with the findings of other studies (which place prevalence of maltreatment at about 10%) and asserted that "child abuse and neglect are statistically rare events and become even rarer as severity increases (MacMillian, 2009, pg. 663). Conversely, Scher and colleagues found that 30% of women and 40% of men had experienced maltreatment in childhood in their study of nearly 1,000 adults in a large metropolitan area and concluded that "reported prevalence estimates of maltreatment vary widely from study to study, but are generally quite high" (Scher, Forde, McQuaid, & Stein, 2004, pg. 168). Other studies have reported life-time prevalence estimates ranging from 21.5% (Mullen et al., 1996) to 31.7% (MacMillan et al., 2001) to 36% (Rich, Gingerich, & Rosén, 1997).

Regardless of the lack of consensus on the prevalence of maltreatment, research on child abuse and neglect consistently reveals a grim picture for maltreated children. Abused and neglected children are more likely to have neurological, psychological, and cognitive deficits than their non-maltreated peers (Child Welfare Information Gateway, 2010; Lowenthal, 1998). Specifically, studies have found that the brains of abused and neglected children can be 20 to 30% smaller than their non-abused peers (Perry, 1993) and that shrinkage of the brain occurs in areas responsible for learning, memory, and the regulation of affect and emotions (Neuberger, 1997). Research has also shown that maltreated kids often have problems regulating their emotions and affect (Lowenthal, 1998) and are at greater risk for cognitive delays and lowered IQ test scores (Koenen, Moffitt, Caspi, Taylor, & Purcell, 2003; perhaps as a result of the structural neurological changes that occur from maltreatment). Abused and neglected children are also more likely to develop dysfunctional behaviors such as aggression, substance abuse, conduct problems, and inappropriate sexual behaviors (Chandy, Blum, & Resnick, 1996; Fergusson, Horwood, & Lynskey, 1996; Schuck & Widom, 2001), and are at risk for the development of personality and mood disorders (Collishaw et al., 2007; Lowenthal, 1998) as well as other psychopathology such as PTSD, eating disorders, and suicidal ideation (Chandy et al., 1996; Collishaw et al., 2007).

Adults with abuse and neglect histories also exhibit increased rates of psychopathology, sexual difficulties, decreased self-esteem, and interpersonal problems (Mullen et al., 1996). Research has specifically found that they are more likely to have higher lifetime rates of anxiety disorders and mood disorders (Brown, Cohen, Johnson, & Smailes, 1999; Collishaw et al., 2007; MacMillan et al., 2001), alcohol abuse/dependence (Malinosky-Rummell & Hansen, 1993), antisocial behavior (Brown et al., 1999; MacMillan, 2001), delinquency (Arata et al., 2005),

aggression (Prino & Peyrot, 1994), and promiscuity/sexual risk-taking (Briere & Runtz, 1990). They are also at greater risk for unemployment, family job loss, low family incomes, poverty, being on Medicaid, and not having any health insurance at all (Zielinski, 2009). In general, it appears that the effects of childhood abuse and neglect are "long lasting, extending well beyond childhood and adolescence into the adult years" (Sneddon, 2003, pp. 237).

Although research has well documented the negative effects of abuse and neglect on children and adults, it remains less clear how many maltreated individuals actually experience negative outcomes. According to the Child Welfare Information Gateway (2010), "outcomes of individual cases vary widely and are affected by a combination of factors, including: the child's age and developmental status when the abuse or neglect occurred; the type of abuse (physical abuse, neglect, sexual abuse, etc.); the frequency, duration, and severity of abuse; and the relationship between the victim and his or her abuser" (pg. 3). Thus, identifying the percentage of negatively affected individuals is a moving target – depending on the type of abuse or neglect being examined, as well as the outcome variables of interest, the number of affected individuals will vary. For example, Collishaw et al. (2007) reported that 55% of adults maltreated in childhood had at least one disorder listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM). MacMillan et al. (2001) reported that 41.2% of males and 51.4% of females with a history of physical abuse had at least one psychiatric disorder, whereas 46.6% of males and 56.1% of females with a history of sexual abuse had at least one psychiatric disorder. Mullen et al. (1996) reported a variety of percentages for their sample of abused women, ranging from rates of 20.8% (sexual abuse), 17.9% (physical abuse), and 20.8% (emotional abuse) for eating disorders to rates of 73.6% (sexual abuse), 66.6% (physical abuse), and 67.9% (emotional abuse) for depression and depressive illnesses. Additionally, Valentine and Feinauer (1993) reported

that "40% of all victims/survivors [of childhood sexual abuse] suffer aftereffects serious enough to require therapy in adulthood" (pg. 216).

Although there are difficulties with quantifying the number of people who experience negative outcomes after experiencing abuse and neglect in childhood, there is no question that there is a considerable number of individuals who appear to be largely unaffected by the adversity they experience early in life. For example, McGloin and Widom (2001) found that about 20% of individuals with abuse and neglect histories were functioning well in adulthood. Additionally, in a review of 21 studies examining individual responses to maltreatment, Walsh, Dawson, and Mattingly (2010) reported that 3% to 18% of children were found to be doing well despite their experience with maltreatment. Walsh et al. reported even higher rates of success for adolescents, ranging from 11% to 48%. In terms of adult outcomes, many studies (i.e., Collishaw et al., 2007; MacMillan et al., 2001; Mullen et al., 1996) have revealed that many, if not most, of the adults studied are doing well and demonstrate few or no negative effects of the abuse and neglect they experienced in childhood. A resilience framework has been used to explain this phenomenon.

Resilience

Resilience has been defined in many ways, but can best be described as the "process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances" (Masten, Best, & Garmezy, 1990, pp. 426). Accordingly, individuals are considered resilient when they have experienced a significant threat or trauma and their adaptation or development is judged to be good (Masten & Coatsworth, 1998). It is important to note that because identifying resilience "involves an inference based on findings concerning individual differences in response to stress or adversity… *It is not, and cannot be, an observed*

trait" (Rutter, 2007, pg. 205, emphasis added). Resilience is dynamic and ever-changing –

people can be resilient at one time and not at another. They can also show good functioning in

certain domains but not others. Resilience is not something that people either have or don't have;

in other words, it is not a personality trait. Instead, resilience is best understood as a phenomenon

that occurs when individuals have access to functional supports and protective factors that act

through protective processes to enable the individuals to overcome their experiences with

adversity (Masten, 2001).

Interest in the construct of resilience began in the 1970's as researchers sought to

examine the factors that were associated with psychopathology in at-risk children (Anthony,

1974; Garmezy, 1971; Werner & Smith, 1982). Results from these studies consistently revealed

a subset of children who were functioning as well as or better than their peers. Werner's

landmark study of Hawaiian children found that about a third of at-risk children developed in a

competent way despite their early experiences with adversity (Werner & Smith, 1982). Similarly,

Anthony (1974), in his study of children at high genetic risk for psychosis due to a strong family

history of schizophrenia and bipolar disorder, found that a subset of children managed to achieve

competence and emotional health despite a history of prolonged adversity. He used the terms

"invulnerable" and "invincible" to describe these children (McGloin & Widom, 2001). This led

to the development of the idea of "resiliency" and new efforts to understand variation in

individual response to adversity. Resilience research has especially grown within the last decade

as the positive psychology movement has developed.

Resilience has been increasingly described as a "common phenomenon that results in

most cases from the operation of basic human adaptational systems" (Masten, 2001, pg. 227).

Resilience is not considered to be extraordinary functioning or adaptation; instead, research tends

to focus on those individuals who are functioning as well as "non-at-risk" peers and emphasizes

the "ordinary magic" that characterizes the phenomenon (Masten, 2001). In terms of its

commonality, resilience researchers have increasingly found that most at-risk individuals end up

doing "okay" in adulthood, making resilience a *common* phenomenon. Bonnie Benard (2004,

pg.7) offers a nice review of this research:

> In fact, for just about any population of children that research has found to be at greater risk than
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> normal for later problems — children who experience divorce, live with step-parents, lose a
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> sibling, have attention deficit disorder, suffer developmental delays, become delinquent, run away,
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> get involved with religious cults, and so on — more of these children make it than do not (Rhodes
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> & Brown, 1991). In most studies, the figure seems to average 70 to 75 percent and includes
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> children who were placed in foster care (Festinger, 1984), were members of gangs (Vigil, 1990),
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> were born to teen mothers (Furstenberg, 1998), were sexually abused (Higgins, 1994; Wilkes,
>
> 2002; Zigler & Hall, 1989), had substance-abusing or mentally ill families (Beardslee, 1988;
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> Chess, 1989; Watt, 1984; Werner, 1986; Werner & Smith, 2001), and grew up in poverty
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> (Clausen, 1993; Schweinhart et al., 1993; Vaillant, 2002). In absolute worst case scenarios, when
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> children experience multiple and persistent risks, still half of them overcome adversity and achieve
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> good developmental outcomes (Rutter, 1987, 2000).

Research documenting the common and ordinary nature of resilience has developed out

of interest in the factors that are associated with good outcomes for at-risk individuals. There is a

wide body of research regarding these "protective factors." Overall, protective factors are

considered those factors that moderate "the effects of individual vulnerabilities or environmental

hazards so that the adaptational trajectory is more positive than would be the case if the

protective factors were not operational" (Masten, Best, & Garmezy, 1990, pp. 426). Research

indicates that protective factors "appear to predict positive outcomes in anywhere from 50 to 80

percent of a high-risk population," as compared to "risk factors [that] are predictive for only

about 20 to 49 percent of a given high-risk population" (Bernard, 2004, pg. 8). Protective factors are generally organized into three categories – family factors, community factors, and individual factors (Masten & Coatsworth, 1998).

One of the most reported familial protective factors is having a close relationship with a caring parent figure where the relationship is warm, consistent, and minimally critical (Howard, Dryden, & Johnson, 1999; Masten & Coatsworth, 1998; Rutter, 1979). Research has repeatedly shown that parental support and/or connnectedness is closely associated with good outcomes for maltreatment survivors and may play a crucial role in resilience (Chandy et al., 1996; Masten & Coatsworth, 1998; Spaccarelli & Kim, 1995). Another common family protective factor is authoritative parenting, which is a combination of warmth, high expectations, and structure (Masten & Coatsworth, 1998). Additionally, having connections to extended family networks has been shown to be protective in that it allows access to additional caregivers and parent figures (Masten & Coatsworth, 1998). Socioeconomic advantages are also protective, as they can offset risk by giving the family access to much needed resources (Masten & Coatsworth, 1998). Further research suggests that having a sensitive and emotionally responsive caregiver can serve a protective function in that it enables the child to form a secure attachment and develop confidence in the support of others (Egeland, Carlson, & Stroufe, 1993). Positive family changes, such as interventions aimed at reducing abuse or otherwise reducing the impact/incidence of maltreatment, have also been found to act protectively (Egeland et al., 1993).

Community factors also serve to promote resilience. Bonds to prosocial adults outside the family are often important in the development of resilience, as those bonds can provide children with access to competent mentors and individuals who can potentially serve as a parent figure in the absence of healthy parental relationships (Masten & Coatsworth, 1998; Masten & Powell,

2003). Connections to prosocial organizations are useful because they can help connect at-risk children with resources and supportive individuals outside of the family (Masten & Coatsworth, 1998). Attending effective schools, such as those that focus on practical and relevant curriculum, maintain attentive school personnel, and offer opportunities for kids to be meaningfully involved and have responsible roles, has also been found to serve a protective function (Howard, Dryden, & Johnson, 1999). More broadly, research suggests that positive school experiences are promote resilience (Masten, Best, & Garmezy, 1990). In addition, access to quality healthcare and social services acts protectively by enabling children and families to have basic needs met (Masten & Powell, 2003). It has also been suggested that living in high-quality neighborhoods helps to protect children from community-based adversity (Masten & Powell, 2003), but recent research has not supported this supposition (summarized in Rutter, 2007). At most, it appears that neighborhood advantage might moderate the relationship between other factors and resilience (i.e., household stability and resilience; DuMmont, Widom, & Czaja, 2007).

Individual characteristics have also been found to play an important role in the development of resiliency. This particular category of protective factors has garnered a lot of research attention, which perhaps highlights the significant value that Western psychology tends to place on the individual and individual characteristics that contribute to psychological health. Research suggests that resilient children are usually those who have a positive self-concept (Garmezy, 1981; Werner & Smith, 1982) and high self-esteem and self-efficacy (Howard, Dryden, & Johnson, 1999; Valentine & Feinauer, 1993; Werner, 2005). They also tend to be socially competent (Howard, Dryden, & Johnson, 1999) and show curiosity about people and ideas (Murphy & Moriarity, 1976). Findings robustly support that having an easygoing temperament (Perry, 2002; Rutter, 1983; Shapiro & Friedman, 1996; Werner, 2005), an internal

locus of control (Garmezy, 1981; Valentine & Feinauer, 1993; Werner, 2005; Werner & Smith, 1982) and a sense of purpose and future-orientation (Garmezy, 1981; Howard, Dryden, & Johnson, 1999) are positively associated with the development of resiliency. Other individual factors that are thought to promote resilience are faith or a sense of spirituality (Valentine & Feinauer, 1993; Werner, 2005) and having a talent (Masten & Coatsworth, 1998; Shapiro & Friedman, 1996). Good intellectual functioning has also been thought to be a protective factor (Masten & Coatsworth, 1998; Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999), but recent studies have not found resilience to be a function of higher intelligence (see Rutter, 2007, for a summary), leaving researchers to questions if intelligence should truly be considered a protective factor.

Limitations of Research on Resilience and Protective Factors

Although there has been much research interest in protective factors, research on how these factors specifically relate to resilience in abused and neglected children has generally been less focused. Instead, the literature appears to generalize findings across several types of childhood trauma or adversity, such as divorce, death of a parent or sibling, poverty or low SES, or serious illness (Masten & Coatsworth, 1998; Masten, Best, & Garmezy, 1990; Werner & Smith, 1982). This is problematic, as not all risk or early adversity is created equal – it is highly likely that good outcomes are closely associated with certain protective factors, depending on the type of risk the individual experiences. Perhaps it would be better to frame resilience as a process that unfolds differently depending on the type of risk or adversity present, thereby necessitating a research focus on understanding the particular protective factors and processes associated with resilient outcomes for individuals who have experienced a *specific* type of risk (i.e., physical abuse vs. sexual abuse vs. emotional abuse).

Of the studies that have examined resilience specifically in abused and neglected children, the research focus tends to be limited to the protective factors that are associated with resilient outcomes for survivors of childhood sexual abuse (i.e., Chandy et al., 1996; Spaccarelli & Kim, 1995). Given that research has shown that children often experience more than one form of maltreatment in neglect and abuse situations (Arata et al., 2005; Briere & Runtz, 1988; Clemmons et al., 2007), this specific focus on sexual abuse limits the generalizabilty and utility of the research and fails to yield important information about the role that protective factors play in resilience to multiple types of maltreatment.

Another limitation of the current literature is the lack of research on gender differences in the protective factors that contribute to good outcomes for abused and neglected children. Very little is known about the relationship between victim gender and the protective factors that are most associated with healthy development. In fact, most of the resilience literature seems to ignore gender differences and instead generalizes findings across men and women. This is a concerning oversight, given that there is already some research support for the existence of gender differences in resilience. For example, McGloin and Widom (2001) found that for abused and neglected children in adulthood, "more females met the criteria for resilience and females were successful across a greater number of domains than males" (pp.1021). Rutter (2003) also states that there are gender differences in resiliency, but goes on to say that we currently have no idea why those differences exist. Cole et al. (2007) found that emotional stability was associated with college adjustment for at-risk females but not in males. These results suggest that resilience and protective factors may have some relationship with gender and is a research avenue that deserves further attention.

Existing protective factor research also lacks cohesion and clarity, largely due to the fact that researchers are still struggling to operationally define resilience. As Masten and Gewirtz (2006) note, "this has proven to be challenging for several key reasons. First, resilience refers to a variety of phenomena" (pp. 2) According to Masten, Best, and Garmezy (1990), resilience can refer to at least three different kinds of phenomena: good outcomes despite high-risk status; sustained competence under threat; and/or recovery from trauma. Thus, resilience as a term remains fairly difficult to operationalize because it can refer to several different phenomena. The nature of resilience as "an inferential construct that involves human judgments about desirable and undesirable outcomes as well as definitions of threat or risk" (Masten & Gewirtz, 2006, pp. 2) also contributes to the problem of not cohesively examining protective factors. According to Shirley and Rosén (2010):

> "Resilience is subjective; researchers decide what constitutes risk and good adaptation and conduct their studies on the basis of those initial decisions. As a result, the protective factors that are identified vary widely across studies because different definitions of resilience lead to different notions of good outcomes, and different outcomes are associated with different protective factors" (pg. 12).

A final limitation of the research on resilience comes from the oft repeated refrain of resilience as "ordinary magic" and "common." Although the research to date has supported the idea that resilience occurs as a result of the operation of basic adaptational processes, the research has tended to lump very different types of risk together and drawn conclusions from the averaged collection of risks. It is possible, however, that if we were to examine resilient outcomes in response to specific individual risks we would find that perhaps resilience is not so common for certain risks or that some risks may need "extraordinary magic" for good adaptation to occur. Put another way, it is possible that the "averaged-risk approach" has missed outliers

that may operate differently from our standard understanding of resilience; therefore, resilience

may not be such a "common" result of "ordinary magic" for all risks.

Resilience in College Students

College attendance has been increasingly viewed as a normative developmental task for

youth in the United States. According to the National Center for Education Statistics (2010a),

69% of high school seniors enrolled in either a two or four year college for the fall semester

immediately following completion of high school in 2008. This rate was up from 62% in 2001,

67% in 1997, and 50% in 1980. According to the Association of American Colleges and

Universities (2002), "possession of a college degree today means substantially what a high

school diploma meant a hundred years ago; it is the passport to most careers, and without it,

people can find themselves trapped in unrewarding jobs" (pg. 8). Research indicates that

individuals with high school degrees earn substantially less than their college-graduated peers

($626 per week for those with a high school degree versus $1,025 per week for those with a

bachelor's degree; Bureau of Labor Statistics, 2010) and they also face higher unemployment

rates (9.7% for high school graduates versus 5.2% for college graduates; Bureau of Labor

Statistics, 2010). More and more adolescents and young adults are pursuing postsecondary

degrees and college attendance has become a common and even culturally-anticipated

occurrence that has known associations with positive financial and occupational outcomes

(Association of American Colleges and Universities, 2010). In sum, going to college is widely

seen as a new standard of education for young adults living in the United States.

Although college attendance has been widely accepted as a norm in young adult

development, it does not mean that the transition from high school to college is an easy one for

students. Going to college represents a tremendous step towards developing independence and

transitioning into adulthood. Students often leave behind large networks of social support and familiar routines and environments to enter into a new, unknown world where they are largely expected to stand on their own. College coursework is often more demanding than that of high school and students face increased requirements on their time for studying, completing projects and assignments, and preparing for class (Association of American Colleges and Universities, 2010b). Statistics on college completion indicate that only 57% of students seeking a bachelor's degree graduate from their institution of origin within six years (National Center for Education Statistics, 2010), reflecting the relative difficulty of successfully transitioning to and completing college.

The developmental nature of the first year of college makes freshman college students an ideal population in which to study resilience to childhood abuse and neglect. Estimates of the number of college students with child abuse and neglect histories vary from as low as 19% (Witchel, 1991) to as high as 80% (Cook, 1991). Recent studies have narrowed the range to between 34% (Clemmons et al., 2007) and 50% (Arata et al., 2005), which is comparable to prevalence rates from community samples (Scher et al., 2004). Targeting the transition from high school to college, a time when many students face developmental challenges and must demonstrate good adaptation if they are to be successful, in neglected and abused students will allow researchers to examine the quality of the students' adaptation and judge if they demonstrate resilience following their earlier experience with adversity.

Another reason to study college students is because it provides information regarding long-term resilience to childhood abuse and neglect in *adults*. Given that childhood abuse and neglect is known to have significant negative effects on long-term functioning and adjustment, understanding what contributes to good adaptation beyond childhood is extremely valuable.

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Gender Differences in Protective Factors

Social-learning theories provide a helpful framework for understanding why there may be gender differences in protective factors. These theories posit that men and women are socialized into gender roles by learning what it means to be a girl or boy from watching and imitating adult models during childhood. Children quickly learn that there are certain behaviors, attitudes, feelings, cognitions, and values that accompany each gender and apply those gender constructs throughout life (Bandura, 1977; Kohlberg, 1966).

Gender socialization has been hypothesized to play a large role in the way men and women cope with trauma or stress. Lengua and Stormshak (2000) state that "gender differences in coping may reflect socialization differences in which men are expected to be more independent, instrumental, and ambitious, whereas women are expected to be emotional, supportive, and dependent, as reflected in traditional gender-role orientations" (pp. 789). Thus, on the basis of socialization, women are expected to be socially-oriented, highly emotional and emotion-focused, and passive in the way they cope with problems. Conversely, men are expected to be independent, emotionally-reserved, and very active and problem-focused in dealing with stressors (Sigmon, Stanton, & Snyder, 1995). Research shows that men and women do indeed tend to uphold these gender-stereotypic forms of coping, with women using more emotion-focused and support-seeking strategies and men using more avoidant and active strategies (Sigmon, Stanton, & Snyder, 1995).

Given that gender socialization plays such a pervasive role in the way individuals cope with stress and trauma, it seems reasonable to expect that protective factors are also impacted by gender. Essentially, it is thought that the degree to which a factor acts protectively is influenced by the gender of the individual. Thus, because social factors are more often emphasized and

viewed as acceptable sources of support for women, family and community protective factors (which have social underpinnings) may play a larger role in good outcomes for maltreated females than for maltreated males. Similarly, because individual or internal factors are more often identified as appropriate sources of support for men, individual protective factors are likely more associated with resilient outcomes for males than females. There is some empirical support for these theoretical expectations, wherein researchers have found that a warm and supportive relationship with a nonoffending parent (Spaccarelli & Kim, 1995), higher emotional attachment to family, and the presence of both parents at home are more associated with resilience in women than in men (Chandy et al., 1996). Chandy et al. (1996) also found that maternal education and parental concern, which are significantly less socially focused, are protective factors that are more associated with men. In addition, a study of resiliency by Cole et al. (2007) found gender differences, reporting that high emotional stability was associated with college adjustment in females but had no relationship with adjustment for college males.

Current Study

The current study sought to identify the factors that are associated with resilience in college students who were abused and neglected as children and to examine gender differences in the factors that are reported. This study also sought to extend the research that has been done on resilience to abuse and neglect by considering all types of abuse and neglect instead of just sexual abuse and by adding a gender component that has tended to be otherwise overlooked by previous research. An additional goal was to reduce some of the imprecision surrounding research on protective factors by using a previously developed and validated protective factors scale (Cole et al., 2007, 2008) that is based on the protective factors that have been widely reported in the literature. Using the new measure will help to limit the subjectivity of "choosing"

protective factors to consider as possibly having an association with the outcome of interest and will allow for a more comprehensive evaluation of the factors that are associated with resilience to abuse and neglect.

Masten and colleagues (1999) have noted that research on resilience 1) must specify the threat to individual development, 2) indicate the criteria by which adaptation is or will be judged to be good or successful, and 3) identify the individual or environmental factors that may help to explain resilient outcomes. For the purposes of this study, a history of childhood abuse and neglect (measured by the Childhood Maltreatment Questionnaire (CMQ), Shirley & Rosén, 2010) will be considered a developmental threat. Adaptation will be considered successful if those with a history of abuse or neglect demonstrate good college adjustment, as indicated by scores on the College Adjustment Questionnaire (CAQ, Shirley & Rosén, 2010). Individual, family, and community resources, as measured by the Social/Emotional Resources Inventory (SERI, Shirley & Rosén, 2010), will comprise the individual and environmental factors that will be examined as helping to explain resilient outcomes.

Research Questions and Hypotheses

1. What is the prevalence of childhood abuse and neglect histories in college students at a large western United States university? (Examined by each type of abuse and neglect and by gender)

2A. Of the students who experienced childhood abuse and neglect, what percentage are experiencing poor adjustment to college, or conversely, what percentage are experiencing good adjustment (are "resilient")? (Examined by gender)

2B. Of the students who were not abused or neglected, what percentage are experiencing poor adjustment?

2C. Is there a significant difference in rates of adjustment between the neglected and abused students and the non-abused and neglected students? (Examined by gender)

3. Of the neglected and abused students, does one gender have better outcomes than the other? What about for the non-abused and neglected students?

4A. What protective factors are associated with adjustment in abused and neglected college students and are these the same factors associated with adjustment in the non-abused and neglected group?

4B. Are there gender differences in those associations?

5. Is there a correlation between abuse and neglect and college adjustment when other negative life events are controlled for?

Given the exploratory mature of this study, there was only one hypothesis. It was hypothesized that the protective factors associated with resilience in abused and neglected college students will generally differ as a function of gender, such that women are expected to emphasize more family and community factors and men are expected to emphasize more individual factors. The rationale for this hypothesis is based on gender socialization theory as outlined above. One caveat to this hypothesis, however, is that there will be certain protective factors that show a strong association with resilience/adjustment regardless of gender. A strong relationship with a caring parent figure has been consistently found to be associated with good outcomes in victimized children regardless of gender, and good intellectual functioning has one of the most widely reported predictors of resilience in men and women (Masten et al., 1999; Masten, Best, & Garmezy, 1990; Masten & Coatsworth, 1998), although there is now a question as to whether intelligence truly is associated with resilience based on recent studies (Rutter, 2007). Socioeconomic status is also a factor that does not seem to be influenced by gender, with

males and females showing the same type of relationship between SES and resilient outcomes (Masten et al., 1999; Rutter, 1979; Werner & Smith, 1982). Thus, these three factors are expected to be equally associated with resilience across gender.

CHAPTER II

Method

Participants

Data from Shirley and Rosén's 2010 study were used to conduct the analyses for this study. Three hundred and one students participated in data collection during September and October of 2009. The data collection occurred at a large western United States university, and students from Introductory Psychology classes were recruited. In return for participating in this study, participants received credit toward Introductory Psychology course requirements. Participants were 163 (54.2%) female and 138 (45.8%) male students. Two hundred twenty-two students (73.8%) were freshman, 49 (16.3%) were sophomores, 20 (6.6%) were juniors, 7 (2.3%) were seniors, and 3 (1%) were in their fifth year or above. Additionally, 14 (4.7%) participants reported their ethnicity as African American/Black, 13 (4.3%) as American Indian/Native American, 7 (2.3%) as Asian American/Asian, 23 (7.6%) as Hispanic/Latino, 2 (<1%) as Native Hawaiian or Pacific Islander, 236 (78.4%) as White non-Hispanic, and 6 (2%) self-reported as Other. The average age was 18.69 years ($SD = 1.45$).

Measures

Childhood Abuse and Neglect. Childhood abuse and neglect was assessed by the Childhood Maltreatment Questionnaire (CMQ) Abuse and Neglect Scales developed by Shirley and Rosén (2010). The CMQ was originally designed to look at five domains of maltreatment (physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect), as well

as more positive aspects of caregiving (called a "Love scale"). The measure asks about specific experiences in childhood and adolescence that are considered to be evidence of maltreatment and asks participants to rate their responses about frequency of occurrence on a 5-point Likert scale ranging from 0 (*never)* to 4 (*very often)*. Confirmatory factor analysis conducted on the measure by Shirley and Rosén (2010) indicated that the CMQ items fit best into two separate scales – Abuse and Neglect – rather than being combined into a single measure; thus these two scales were used in the present study to quantify childhood experiences of abuse or neglect (see appendix A for the scales).

The CMQ-Abuse Scale has 19 items split across four subscales: Sexual Abuse (four items), Physical Abuse (five items), Emotional Abuse (five items), and Love (five items). These subscales demonstrate good reliability, with alphas of .927, .889, .840, and .799, respectively for this sample. A full scale score was computed by summing the 14 items from the three abuse categories (physical, sexual, and emotional; the Love subscale is excluded) and reliability is good for the full scale (alpha = 0.90). The CMQ-Abuse measure also demonstrates good factorial and construct validity (Shirley and Rosén, 2010).

The CMQ-Neglect Scale has 15 items spilt across four subscales: Emotional Neglect (four items), Physical Neglect (five items), Supervision Neglect (three items), and Love (four items). These subscales demonstrate good reliability, with alphas of .913, .810, .849, and .768, respectively for this sample. There is good full scale reliability as well (alpha = .855); the full scale is comprised of 12 items from the three neglect categories (emotional, physical, and supervision) and excludes the Love subscale. The CMQ-Neglect measure demonstrates good factorial and construct validity (Shirley and Rosén, 2010) as well.

For the purposes of this study, the items used to create the full scale scores for the CMQ-Abuse and CMQ-Neglect scales were combined to create a total maltreatment score labeled "CMQ Total Score." Any time the term "CMQ" is used in the data analysis section of this paper, it is the CMQ Total Score variable that is being referenced.

Negative Life Events. In order to assess for other traumatic life events that might qualify as a "threat to development" for an individual and potentially confound the results, traumatic life events were assessed by using a modification of the Life Events Questionnaire-Adolescent version (LEQ-A; Gest et al., 1999; Masten et al., 1994). The measure was developed for use with adolescents in a large resilience study called Project Competence and has been used in two recent studies by Cole et al. (2007, 2008). The 67-item questionnaire asks respondents to indicate whether or not particular life events have occurred in their lifetime. It should be noted that this measure has been modified to ask participants about lifetime occurrence rather than using the original 12 month time frame that the questionnaire specified. Only 24 of the 67 items are scored, as they have been deemed the most important by Project Competence researchers (Gest et al., 1999; Masten et al., 1994). The 24 items have been judged to be primarily negative events that are independent of an adolescent's actions. Independence of the event is important, as Masten et al. (1994) notes that nonindependent events inflate the correlation between life events and adjustment and provide a poor indication of competence. Scores on this measure were planned to be held constant in the analyses so that negative life events outside of childhood abuse and neglect were not able to influence the relationship between abuse and neglect and college adjustment. Preliminary results, however, indicated that negative life events were important in understanding the relationship between childhood maltreatment and college adjustment. (See appendix B for a copy of the measure.)

Resilience. Resilience was classified by using the College Adjustment Questionnaire (CAQ) developed by Shirley and Rosén (2010). The CAQ has 14-items divided into subscales that measure Academic Adjustment (five items), Social Adjustment (five items), and Emotional Adjustment (four items). The measure also provides a Full Scale score. Participants rate their responses on a 5-point Likert type scale ranging from *not true* to *completely true.* Reported subscale reliabilities in this sample are good, with alphas of 0.89, 0.84, and 0.78, respectively (Shirley and Rosén, 2010). Full scale reliability in this sample is also good (alpha = 0.83, Shirley & Rosén, 2010). The measure also demonstrates good factorial and construct validity in this sample (Shirley & Rosén, 2010). See appendix C for the measure.

Social/Emotional Resources. Participants used the revised version of the Social/Emotional Influences Inventory (Shirley & Rosén, 2010; Cole et al., 2007, 2008) to identify the individual, family, and community factors that may have played a role in their resilience. The measure asks participants to indicate on a 5-point Likert-type scale the degree to which various lifetime influences enabled them to overcome life stressors. Responses range from *not at all true* to *very true.*

The original 40-item measure developed and analyzed by Cole et al. (2008) was determined to have eight factors or subscales: positive caregiving, intelligence, financial resources, self-esteem, talent, family connections, good schools, and parental expectations. The inventory was later revised by Shirley and Rosén (2010) to include additional items about community factors, such as involvement with mentors, access to quality healthcare, and connections with prosocial organizations. More items were also added in an effort to make the existing factors/subscales more robust. Confirmatory factor analysis resulted in a final model with 26 items spread across nine subscales: Intelligence (three items), Positive Caregiving (three

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items), Good Schools (three items), Parental Expectations (two items), Self-Esteem (three items), Talent (three items), Faith (three items), Family Connectedness (three items), and Financial Resources (three items). As can be seen, the structure of the measure remained quite stable despite the added items and only one additional factor, Faith, was added to the scale. Thus, there is only a minor difference between the original SERI and the revised SERI.

For the purposes of this study, both full scale, domain scale, and subscale scores were be calculated and used in data analysis. Cole et al. (2008) reported a coefficient alpha of .91 for the full scale and good internal reliabilities for the subscales that ranged from .75 to .91. Shirley and Rosén (2010) also found good reliabilities for the full scale (alpha = 0.899) and subscales (alphas ranged from .73 to .97). See appendix D for the measure.

Demographic Data. Descriptive information about the sample was gathered using a Demographic Information Form developed for this study. Categories of information included, age, gender, year in school, race/ethnicity, sexual orientation, relationship status, mother's level of education, mother's occupation, father's level of education, and father's occupation. This data was used to make comparisons between maltreated and non-maltreated students regarding group characteristics. See appendix E for the measure.

Procedure

Listed below is the procedure outlined in the study by Shirley and Rosén (2010), from which the data for the current study comes:

"Participants were given an informed consent form that provided a description of the study and any potential risks from participating in the study, as well as an assurance of anonymity and confidentiality. All students filled out survey packets containing the CAQ, CMQ, LEQ and SERI... Participant names were not linked with the survey packets in any

way so as to maintain confidentiality and avoid any reporting issues that could emerge

with the maltreatment questionnaires. Students received a debriefing form at the end of

the study and were thanked for their participation."

CHAPTER III

Results

Maltreatment in the sample

      Scores on the Childhood Maltreatment Questionnaire (CMQ) – Abuse and Neglect Scales were used to quantify maltreatment in this sample. Initial analysis of the maltreatment variable (CMQ total score) immediately revealed that most people had either no maltreatment or a very low level of maltreatment. See Figure 1 for a histogram of CMQ scores for the entire sample. Given the skewed distribution of CMQ total scores, with most people either having no or little maltreatment and very few having a high level maltreatment, it made sense conceptually to change the maltreatment variable from a continuous variable to a categorical variable with two levels – no maltreatment ("none") or some maltreatment ("some"). A total score of zero, yielded by endorsing zero's (*never occurred*) on all of the items was recoded into "no maltreatment." Scores of one or higher were recoded into "some maltreatment." Of the 301 participants, 163 (53.8%) reported some form of maltreatment and 138 (46.2%) reported no maltreatment.

      Chi-square tests of independence were conducted to compare the individuals in each group on several demographic variables. Results indicate that the proportion of individuals in the none and some maltreatment groups was not significantly related to the following domains: gender, $\chi^2(1, N = 301) = .00$, $p = .95$; year in school, $\chi^2(4, N = 301) = 6.78$, $p = .15$; ethnicity; $\chi^2(7, N = 301) = 12.94$, $p = .07$; sexual orientation, $\chi^2(4, N = 301) = 3.79$, $p = .44$; relationship status, $\chi^2(3, N = 301) = 2.74$, $p = .43$; and mother's level of education, $\chi^2(6, N = 301) = 4.33$, $p =$

.63. There was a significant relationship between maltreatment and father's level of education, $\chi^2(6, N = 301) = 15.72$, $p = .02$, such that there was a significantly smaller proportion of individuals in the maltreated group with fathers who had post-baccalaureate degrees ($p < .05$) than in the non-maltreated groups. The effect size, determined using Cramer's V, was .229 (a small effect size according to Pallant, 2007).

An independent samples t-test was conducted to compare age for the no maltreatment and maltreatment groups. There was a significant difference in scores for non-maltreated (M = 18.50, SD = .94) and maltreated individuals, M = 18.86, SD = 1.76; $t(252) = -2.31$, $p = .02$ (two-tailed). The magnitude of the differences in means (mean difference = -.37, 95% CI: -.68 to -.05) was small (eta squared = .02), indicating that although the difference in age between the groups is statistically significant, it is not practically meaningful. Indeed, the difference equates to a few months difference in age.

Prevalence of types of maltreatment

The prevalence of specific forms of maltreatment varied from as low as 10% of the sample to as high as 31% of the sample. See Table 1 for details about the rates. Overall, supervision neglect was the most common form of maltreatment with 30.9% of the entire sample experiencing inadequate supervision in their childhood. The next most common form was emotional abuse (29.9%), followed by physical abuse (25.9%) and emotional neglect (24.3%). Sexual abuse occurred at a rate of 10% and physical neglect was the rarest form, occurring in only 5.3% of the sample.

Within the maltreated sample, over half of the students experienced supervision neglect (57.4%) and emotional abuse (55.6%). Just under half of the group also experienced physical abuse (48.1%) and emotional neglect (45.1%). Sexual abuse and physical neglect occurred at

rates of 18.5% and 9.9%, respectively, within the maltreated sample. These rates reflect a high

level of comorbidity in the occurrence of maltreatment. Of the individuals who were maltreated,

only 35.8% just experienced one type of maltreatment. The remaining 64.2% reported

experiencing two or more forms of maltreatment during childhood. Specifically, 25.3%

experienced two types of maltreatment, 19.1% experienced three types, 9.3% experienced four

types, 9.3% also experienced five types, and 1.2% experienced every type of abuse and neglect

assessed in this study.

As Table 2 demonstrates, the correlations between types of maltreatment were highly

variable, with some forms of neglect and abuse demonstrating large correlations and other types

correlating very little. Specifically, emotional abuse, physical abuse, and emotional neglect were

highly related, with Pearson r values in the .70 to .80 range. Conversely, sexual abuse correlated

minimally with the other types of maltreatment and actually demonstrated no relationship with

physical neglect or supervision neglect.

Prevalence of maltreatment by gender

The prevalence of maltreatment was also examined by gender (see Table 3 for details).

Across the whole sample, 29.2% of women and 24.6% of men reported some form of

maltreatment. A chi-square test of independence revealed that gender and maltreatment were not

related, $\chi^2(1, N = 301) = .00$, $p = .95$, with roughly equal proportions of men and women

experiencing some form of neglect and abuse. There were, however, several significant

differences between men and women in the rate of specific types of maltreatment that occurred.

Specifically, a chi-square test for independence (with Yates Continuity Correction) indicated that

there was a significant association between gender and physical abuse, $\chi^2(1, N = 162) = 6.17$, $p =$

.013, *phi* = .21, with a greater proportion of men (56.4%) experiencing physical abuse than

women (43.6%). There was also a relationship between gender and supervision neglect, χ^2(1, N = 162) = 8.28, p = .004, *phi* = .24, again with a greater proportion of men (55.9%) experiencing supervision neglect than women (44.1%). Differences in rates of sexual abuse and physical neglect also approached significance (sexual abuse: χ^2(1, N = 162) = 2.91, p = .088, *phi* = -.15; physical neglect: χ^2(1, N = 162) = 2.85, p = .092, *phi* = .15), and it is our contention that they would have likely been significant if sample size had been larger and the number of participants in each cell was bigger. Of those experiencing sexual abuse, 70% were women and 30% were men. Of those experiencing physical neglect, 68.8% were men and 31.2% were women. These are dramatically differing proportions, yet given that only 30 people reported sexual abuse and 16 people reported physical neglect, we suspect there just wasn't enough power to detect the difference.

With regard to co-occurring maltreatment across men and women, there was not a significant difference between men and women in the rates of comorbid abuse and neglect (females: M = 2.20, SD = 1.21, males: M = 2.51, SD = 1.50), t(140) = -1.42, p = .157. See Table 4 for the rates of multiple forms of maltreatment across men and women.

Childhood maltreatment and college adjustment

"Good adjustment" for maltreated students was conceptualized as "doing as well as non-maltreated peers" and was calculated by subtracting one standard deviation (SD = 7.38) from the mean CAQ Full Scale (FS) score for the non-maltreated group (M = 55.58). Scores falling above this value (48.20) were considered evidence of good adjustment as they were no more than one standard deviation below the average score for non-maltreated peers and therefore fell into the "average or better" category we were trying to capture. Scores falling below this value were considered evidence of poor adjustment. Results indicate that of the 162 students who reported

some form of maltreatment, 72.8% (118 students) demonstrated good adjustment and 27.2% (44 students) demonstrated poor adjustment. Using the same definition of good adjustment for the non-maltreated sample, 84.9% (118 students) demonstrated good adjustment and 15.1% (21 students) demonstrated poor adjustment. A chi-square test of independence (with Yates Continuity Correction) indicated a significant association between adjustment and maltreatment, χ^2(1, N = 301) = 5.73, p = 0.017, phi = -.15, with a greater proportion of maltreated individuals demonstrating poor adjustment than non-maltreated individuals. An independent samples t-test also revealed that maltreated individuals scored significantly lower on the CAQ-FS than their non-maltreated counterparts (maltreated group: M = 52.84, SD =7.35, non-maltreated group: M = 55.58, SD = 7.38), t(299) = 3.22, p = .001. The effect size, calculated using eta squared, for the difference in college adjustment among groups was .03, a small effect according to Cohen (1988).

Adjustment was also examined by gender (see Table 5). In the non-maltreated sample, 82.4% of women and 87.5% of men demonstrated good adjustment. A chi-square test of independence (with Yates Continuity Correction) indicated that there was not a significant association between adjustment and gender in the non-maltreated group, χ^2(1, N = 139) = 0.31, p = 0.579, phi = .07. Conversely, adjustment was related to gender in the maltreated group, χ^2(1, N = 162) = 5.48, p = 0.019, phi = .20, with a greater proportion of maltreated women demonstrating poor adjustment (35.2%) than maltreated men (17.6%).

Consistent with our research questions regarding adjustment, two planned comparison independent samples t-tests were conducted to examine differences in CAQ-FS mean scores for men and women across maltreatment. The first t test revealed that there was a statistically significant difference in CAQ-FS scores between maltreated women (M = 51.68, SD = 8.44) and

maltreated men (M = 54.18, SD = 5.62), $t(152) = -2.25$, $p = .03$, eta-squared = .03 (small effect

size), with maltreated women scoring an average of 2.5 points lower on the CAQ than maltreated

men. The second t test indicated that there was not a significant difference in CAQ-FS scores

between non-maltreated women (M = 55.51, SD = 7.53) and non-maltreated men (M = 55.66,

SD = 7.19), $t(137) = -.12$, $p = .90$. See Figure 2 for a graphical representation of the differences

in mean CAQ-SF scores between men and women by maltreatment group. Overall, these results

indicate that maltreated women have significantly poorer outcomes than maltreated men. This

leads us to wonder what might contribute to this disparity in outcomes between maltreated men

and women, with women demonstrating negative effects from maltreatment and men appearing

to largely demonstrate resilience.

Childhood Maltreatment and Negative Life Events

The relationship between maltreatment (as measured by the CMQ total score) and

negative life events (as measured by the LEQ) was first investigated using the Pearson product-

moment correlation coefficient. There was a moderate, positive correlation between the two

variables, $r = .44$, n = 301, $p = .00$, with increasing levels of maltreatment associated with higher

levels of negative life events. Next, planned comparisons between men and women at the two

levels of maltreatment were conducted. The first t test indicated that maltreated women (M =

6.62, SD = 3.89) had significantly more negative life events than maltreated men (M = 4.88, SD

= 3.48), $t(160) = 2.97$, $p = .03$, eta squared = .05 (small effect size). The second t test indicated

that there was not a significant difference in negative life events between non-maltreated women

(M = 3.87, SD = 2.61) and non-maltreated men (M = 3.92, SD = 3.20), $t(137) = -.11$, $p = .91$. See

Figure 3 for a graphical representation of the differences in mean LEQ scores between men and

women by maltreatment group. Overall, these results indicate that not only do maltreated women

have poorer adjustment in college than maltreated men, but they also have a greater number of negative life events than maltreated men.

Childhood Maltreatment and Social/Emotional Resources

The relationship between maltreatment (CMQ total score) and social/emotional resources (aka, protective factors; SERI Full Scale (FS) score) was also investigated. A Pearson product-moment correlation coefficient of -.503 (n = 301, p = .00) indicated a large, negative correlation between the variables such that as CMQ total scores increased SERI-FS scores decreased. A series of planned comparison t tests were conducted to examine differences in SERI-FS by gender and maltreatment, which revealed that there was not a significant difference between maltreated women (M = 106.29, SD = 12.51) and maltreated men (M = 104.41, SD = 14.46), $t(160)$ = .89, p = .38, nor was there a significant difference between non-maltreated women (M = 115.43, SD = 9.32) and non-maltreated men (M = 112.41, SD = 12.61), $t(114)$ = 1.58, p = .12, in SERI full scale scores. See Figure 4 for a graphical representation of the differences in mean SERI-SF scores between men and women by maltreatment group. These results indicate that men and women did not differ on full scale SERI scores at either level of maltreatment, although it appears that there may be a difference between the maltreated and non-maltreated groups overall.

We were also interested in looking at differences in specific types of protective factors, not just SERI full score, by gender and maltreatment. Three domains of protective factors – Individual Factors, Family Factors, and Community Factors – were computed by combining scores for each protective factor that fell within the domain (i.e., Individual Factors is the sum of scores from SERI – Talent, SERI – Intelligence, SERI – Faith, and SERI – Self-Esteem; Family Factors is the sum of scores from SERI – Positive Caregiving, SERI – Parent Expectations, and

SERI – Family Connectedness; Community Factors is the sum of scores from SERI – Good

Schools and SERI – Financial Resources). A series of planned comparison *t* tests were conducted

to examine differences in Individual, Family, and Community Factors by gender and

maltreatment.

An independent *t* test comparing maltreated men and maltreated women on Individual

Factors indicated that there was not a significant difference (maltreated men: M = 45.76, SD =

8.43; maltreated women: M = 45.72, SD = 7.59), t(160) = -.032, p = .974. Maltreated men and

women also did not have significantly different Family Factors (women: M = 33.73, SD = 4.79;

men: 33.35, SD = 5.49), t(160) = .465, p = .642. There was a significant difference in

Community Factors, with women having a higher average on Community Factors (M = 26.85,

SD = 3.24) than men (M = 25.30, SD = 3.93), t(160) = 2.75, p = .007, eta squared = .05 (a near-

medium effect; Cohen, 1988).

Independent *t* tests comparing non-maltreated men and women on the three domains of

protective factors indicated that there was not a significant difference in Individual Factors

(women: M = 50.57, SD = 6.30; men: M = 48.39, SD = 8.91; t(111) = 1.64, p = .104), Family

Factors (women: M = 36.55, SD = 3.21; men: M = 36.12, SD = 3.63; t(137) = .73, p = .469), or

Community Factors (women: M = 28.31, SD = 1.88; men: M = 27.90, SD = 2.31; t(137) = 1.16,

p = .250). Overall, the results of the *t* tests for both the maltreated and non-maltreated groups

indicate that men and women only differed in Community Factors, with maltreated women

having significantly more Community Factors than maltreated men.

A final analysis using SERI variables was conducted to answer the question of what

specific protective factors are associated with adjustment in maltreated and non-maltreated

students. We conducted two simultaneous multiple regressions, one for the maltreated group and

one for the non-maltreated group, where CAQ-FS scores were regressed in a single step on all nine protective factors of the SERI. For the regression in the maltreated group (see table 6 for details), all nine protective factors accounted for 24.4% of the variance in CAQ-FS scores, which was a significant amount, $R^2 = .244$, $F(9, 152) = 5.44$, $p < .001$. Of the nine protective factors in the model, three were significant predictors: SERI – Good Schools, p < .001, SERI – Self-Esteem, p < .001, and SERI-Talent, p = .05. For the regression in the non-maltreated group (see table 7 for details), all nine protective factors accounted for a significant amount of the variance in CAQ-FS scores as well, $R^2 = .228$, $F(9, 129) = 4.23$, $p < .001$. Interestingly, of the nine protective factors in the model, only SERI – Self-Esteem was a significant predictor of CAQ-FS. Thus, on the basis of these regressions, it appears that three factors – Good Schools, Self-Esteem, and Talent – are associated with adjustment in maltreated individuals, whereas only one factor – Self-Esteem – is associated with adjustment in non-maltreated individuals.

Other Regression Analyses

Hierarchical Multiple Regression. Hierarchical multiple regression was used to assess the impact of negative life events (LEQ) and social/emotional resources (SERI-FS) on the relationship between childhood maltreatment (CMQ total score) and college adjustment (CAQ-FS) in men and women. Separate regressions were conducted for men and women, given that initial analyses indicated that the two groups differed on negative life events and social/emotional resources, as well as the relationship between maltreatment and adjustment.

In the hierarchical regression for women (see Table 8 for details), CAQ-FS scores were regressed onto a dummy coded maltreatment variable in Step 1 ("0" equals no maltreatment, "1" equals some maltreatment). Maltreatment explained a significant amount of variance (5.4%) in CAQ scores, $R^2 = .054$, $F(1,160) = 9.10$, p = .003. The unstandardized coefficient for

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maltreatment was -3.84, indicating that for every one unit increase in maltreatment (i.e., going from no (0) maltreatment to some (1) maltreatment), college adjustment dropped by 3.84 points. Next (Step 2), LEQ, mean-centered for women, was added to the model and accounted for an additional 2.7% of variance, which was a significant increase, $p = .032$. With LEQ in the model, the unstandardized coefficient for maltreatment increased to -2.71, indicating that when LEQ is held constant, a one unit increase in maltreatment is associated with a 2.71 point drop in CAQ. Put another way, controlling for LEQ weakened the impact of maltreatment on CAQ-FS so that CAQ-FS decreased less as maltreatment increased than it had when LEQ was not controlled. This pattern of results seemed to suggest a possible partial mediation effect of the LEQ and a mediation analysis was conducted. Results are presented in the next section. In Step 3, SERI-FS was added to the model, accounting for an additional 5.2% of the variance, which was a significant increase, $p = .002$. Interestingly, adding SERI to the model completely eliminated the relationship between maltreatment and CAQ, such that maltreatment was no longer a significant predictor of CAQ. Again, this pattern of results suggested that the SERI might mediate the relationship between maltreatment and CAQ. A mediation analysis was conducted and results are presented below. In Step 4, an interaction term of SERI times maltreatment was entered. An original hypothesis of the study had been that social/emotional resources impact the relationship between maltreatment and adjustment, so a moderation analysis was planned to look at the interaction between SERI and maltreatment scores. The interaction term was not a significant predictor, $p = .57$, and only accounted for an additional .2% of the variance in CAQ, indicating that SERI-FS scores do not moderate the relationship between maltreatment and CAQ-FS in women.

See Table 9 for details about the hierarchical regression for men. Step 1 of this regression identical to Step 1 of the regression for women. Interestingly, maltreatment did not explain a significant amount of variance (1.3%) in CAQ-FS for men, $R^2 = .013$, $F(1, 136) = 1.84$, $p = .177$. Adding LEQ in Step 2 and controlling for negative life events did not improve the relationship between maltreatment and CAQ-FS, with the model remaining non-significant, $R^2 = .038$, $F(2, 135) = 2.656$, $p = .074$. SERI was added in Step 3 and the model became significant, $R2 = .205$, $F(3, 134) = 11.548$, $p = .000$. SERI accounted for 16.8% of the variance in college adjustment and was a significant predictor of CAQ scores, R^2 change $= .168$, F change $(1, 134) = 28.26$, $p = .00$. In Step 4, an interaction term of SERI times maltreatment was entered. An original hypothesis of the study had been that social/emotional resources impact the relationship between maltreatment and adjustment, so a moderation analysis was planned to look at the interaction between SERI and maltreatment scores. The interaction term was significant, $p = .013$ and accounted for an additional 3.6% of variance in CAQ-FS scores, indicating a significant moderation effect. See Figure 5 for a graph of the interaction between SERI-FS, maltreatment, and CAQ-FS.

Mediation Analysis. As discussed earlier, two variables – LEQ and SERI – appeared to demonstrate a weakening effect on the relationship between maltreatment and adjustment in women. Separate moderation analyses of both variables indicated that moderation was not occurring, which left the question of if the variables might mediate the relationship rather than moderate it. Using Baron and Kenny's (1986) procedure for estimating mediational effects using a series of regression analyses, we found that, for women, the strength of the relationship between the dummy coded maltreatment variable and CAQ-FS scores decreased when LEQ was included in the model (see table 10 for details). Once LEQ was included in the model, the effect

of maltreatment on CAQ-FS was reduced, although it remained significant ($p = .045$), indicating partial mediation. As recommended by Baron and Kenny, the Sobel test was used to determine if the reduction in the predictive ability of maltreatment was statistically significant. LEQ significantly mediated the effect of maltreatment on CAQ-FS, $z' = -1.99$, $p = .046$ for women.

With respect to SERI, we found that the association between maltreatment and CAQ-FS was completely eliminated when SERI-FS was included in the model and held constant ($p = .132$), indicating full mediation (see table 11 for details). The Sobel test indicated that SERI significantly mediated the effect of maltreatment on CAQ-FS, $z' = -3.00$, $p = .003$, for women.

For men, the data did not meet the prerequisites for mediation. Maltreatment did not predict CAQ-FS ($p = .177$) (Step 1 of the Baron and Kenney approach), so we did not further assess for a mediation effect of LEQ. With regard to the SERI, the preliminary hierarchical regression indicated that it significantly moderated the relationship between maltreatment and CAQ, so a mediation analysis was not appropriate.

Relative Weight Analysis. Relative weight analysis is a relatively new statistical method that allows researchers to identify the proportionate contribution each predictor in a regression model makes to the total variance explained by the model (Johnson, 2000), even though the predictors may be correlated. In an article by Johnson (2000), relative weight is defined "as the proportionate contribution each predictor makes to R^2, considering both its unique contribution and its contribution when combined with other variables" (pg. 1) and a method is presented for approximating relative weights by creating a "set of variables that are highly related to the original set of variables, but are uncorrelated with each other" (Johnson, 2000, pg. 4). This method allows researchers to work around the issue of correlated predictors and the resulting multicolinearity that makes interpreting regression results difficult.

Using the free statistical computing program R, a model containing LEQ, CMQ total score, and all 9 subscale scores of the SERI was used to predict CAQ-FS scores for the entire sample (n = 301). Results indicated that the full model accounted for 25.1% of the variance in CAQ scores. Of that 25% total variance predicted by the model, LEQ, SERI – Good Schools, SERI – Self-Esteem, and SERI – Talent contributed the most variance. Self-Esteem had a relative weight of 42.23%, meaning that it contributed 42% of the total amount of variance explained by the model. Good Schools had a relative weight of 18.65%, Talent had a relative weight of 13.71%, and LEQ had a relative weight of 9.79%.

Additional relative weight analyses were conducted for maltreated and non-maltreated individuals, as well as males and females (see Tables 12-16 for details). Overall, there were several differences in the relative importance of predictors between the samples. For example, Self-Esteem and Good Schools were significant predictors in the maltreatment sample (accounted for 36.4% and 28.1% of the variance in R^2 respectively), whereas Self-Esteem and Faith were significant predictors in the non-maltreated sample (45.2% and 18.2% of variance explained respectively). The male sample had three significant predictors, Self-Esteem (29.1%), Faith (25.1%), and Talent (13.8%), whereas the female sample had two significant predictors, Self-Esteem (43.2%) and Good Schools (21.5%). Across the board, Self-Esteem was an important predictor and accounted for a significant portion of the variance explained by the models.

CHAPTER IV

Discussion

The primary goal of this study was to examine the relationship between childhood maltreatment and college adjustment and identify the factors that are associated with resilience in college students who were abused and neglected as children. We were also interested in looking at gender differences in the identified protective factors, particularly as they related to resilient outcomes for maltreated students. Results indicate that there are not only significant differences between maltreated men and women in the relationship between maltreatment and college adjustment, but also significant differences in the protective factors that play a role in resilient outcomes for these students.

In order to examine the relationship between childhood maltreatment and college adjustment, we first identified the maltreatment characteristics of the sample. Analysis of the prevalence of maltreatment in this sample indicated that childhood maltreatment, at least at a low level, is a relatively common experience for many college students. This finding is consistent with other research that has found that childhood abuse and neglect to be a fairly common phenomenon in both college samples and the community at large (Elliott, Alexander, Pierce, & Richmond, 2009; Scher et al., 2004), and our prevalence rate of 54.2% matches closely with a comparable study of maltreatment in college students from a study by Arata and colleagues (Arata et al., 2005). It is important to note, however, that several other studies (Clemmons et al., 2007; Elliott et al., 2009; Rich et al., 1997) have reported slightly lower rates ranging between

30% and 40%, which may be due to differences in measuring and classifying maltreatment and may indicate that our classification of maltreatment was too liberal.

The reported rates of the various types of abuse and neglect in this sample are also consistent with previous research, especially with regard to the high rate of co-occurring maltreatment. We found that 64.2% of the students who were abused or neglected experienced two or more forms of maltreatment during childhood, which fits well with the rates provided in a summary of research on co-occurring maltreatment by Herrenkohl and Herrenkohl (2009) that range between 60% and 90%.

We also found that the prevalence of maltreatment was not significantly different between men and women, although there were a few significant differences between the proportion of men and women experiencing specific types of abuse. Specifically, men experienced significantly more physical abuse and supervision neglect than women, with differences in physical neglect also approaching significance. From the perspective of gender socialization, this pattern of results makes sense, as men in American culture are typically expected to be physically tough, independent, and self-sufficient (Good, Sherrod, & Dillon, 2000). At the extreme end of the spectrum, these expectations might translate into a tendency to physically abuse and neglect boys because "they can and should be able to handle it."

Although there were not differences in the rate of childhood abuse and neglect for men and women, there were significant differences in college adjustment between maltreated men and women. Interestingly, men not only had higher average scores on the CAQ than women (M = 54.18 vs. 51.68, a difference of 2.5 points), but they also demonstrated higher rates of "good adjustment" than women (82.4% vs. 64.8%), which was a more meaningful difference since good adjustment in maltreated individuals is considered evidence of resilience. Thus, we

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concluded that although men and women are experiencing the same rate of maltreatment, abused and neglected men seem to be demonstrating more resilient outcomes than women.

With regard to why maltreated men are more resilient than maltreated women, or conversely why maltreated women seem to have poorer outcomes, there seem to be several possible explanations. Our chi-squared analyses indicated that maltreated women had a greater number of negative life events in general than maltreated men, while both groups had the same number of social/emotional resources, which suggests that the increased negative life events might be contributing to poorer outcomes for women. Negative life events (LEQ) were tested as a mediator for women and evidence for partial mediation was found, indicating that childhood maltreatment and other, additional negative life events might be causally related. Although we did not hypothesize a mediation model for maltreatment and negative life events, conceptually it seems to be a plausible model. If we think of childhood maltreatment as a triggering variable that starts a cascade of effects that ultimately result in poor college adjustment, mediation makes sense:

Childhood maltreatment occurs → Cascade of negative life events → Adjustment is negatively impacted

Consider, for example, a situation in which a little girl is sexually abused by her father. Let's say her mother finds out about the abuse, decides to separate from and later divorce the father, and then has to raise her children in a single-parent family with reduced income. Here, the maltreatment effectively caused the other negative life events (parental separation and divorce, financial hardship, family stress) to occur and it is through this process that the little girl's later college adjustment was affected.

Unfortunately, because a mediation effect of negative life events was not anticipated, details about the timing of when maltreatment and other negative life events occurred were not

gathered. As a result, we are not able to definitively make the case for a mediation model, as the sequence of the predictor and mediating variables needs to be known in order to make accurate statements about a causal relationship between the variables. For example, it is also possible that:

Negative life events occur → Maltreatment is triggered → College adjustment is negatively impacted

In this situation, it would be plausible that family stress and financial hardship could cause parents to become abusive towards their girls, which then impacts later adjustment.

In terms of the impact that negative life events has on men, the results of our study indicate that negative life events do not play a role in the relationship between maltreatment and college adjustment for men. Our findings, however, are limited by the lack of relationship between maltreatment and college adjustment in men – because the requirements for Step 1 of the Baron and Kenney (1986) approach were not met, we could not examine LEQ as a mediator as we had in women. It is possible, though, that negative life events do mediate the relationship between maltreatment and adjustment and this, in fact, might be the very reason we didn't find an effect in this study. By this we mean that if maltreatment affects adjustment through negative life events, negative life events have the potential to be the constraining factor on generating the effect. If we conceptualize negative life events as being a threshold variable where adjustment is only impacted once maltreatment has caused *enough* negative life events to happen, then we are left to wonder if perhaps the men in this sample may just not have had enough negative life events for the effect to be triggered. Maltreated women in the sample averaged 6.62 negative life events; maltreated men in the sample averaged 4.88. Thus, if there is a threshold that must be reached in order for negative life events to significantly impact adjustment (let us say for argument sake that 5 negative life events is the threshold), then the reason maltreatment does not appear to be impacting adjustment for men is that the mediator wasn't "triggered" for them.

Maltreatment → Negative life events

Enough events occur → College adjustment negatively impacted

Enough events do not occur → College adjustment not impacted
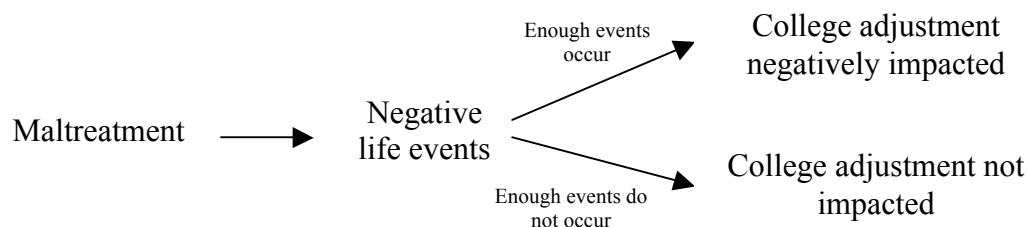
Returning to our discussion of why women demonstrated poorer outcomes in this study, another avenue through which adjustment in maltreated women might be impacted is social/emotional resources. Although our results indicated that maltreated men and women have a roughly equivalent amount of resources or protective factors (with the exception of Community Factors, of which maltreated women had more), the way those factors act on the relationship between maltreatment and adjustment is different. In women, we found that holding resources (SERI) constant completely eliminated the relationship between childhood abuse and neglect and college adjustment, indicating a complete mediation effect. A sobel test confirmed the significance of the effect. In men, we found that adding an interaction term of resources by maltreatment significantly predicted adjustment, indicating a moderation effect. Thus, the mechanism by which social/emotional resources impact or interact with the relationship between maltreatment and adjustment is quite different between abused and neglected men and women. Why might this be the case? One possible explanation comes from the supposition that men and women are actually experiencing very different types of maltreatment. As our results showed, men experienced significantly more physical abuse and supervision neglect, as well as amounts of physical neglect that approached significance. Conversely, women experienced an amount of sexual abuse that was nearly significantly more than men. Suffice it to say, physical abuse and supervision and physical neglect are very different kinds of maltreatment from sexual abuse, with sexual abuse typically being thought of as a severe kind of abuse. Perhaps, then, women are

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more often experiencing maltreatment that is impactful enough to actually cause a reduction in social/emotional resources, which then causes poorer adjustment (mediation), whereas men more often experience types of maltreatment that only negatively affect adjustment when social/emotional resources happen to be low (moderation).

The idea that different types of maltreatment might indirectly be responsible for the differences in college adjustment between abused and neglected men and women ties in with our earlier discussion (see *Resilience* section in Introduction) of the importance of examining outcomes by risk type. We argued that certain risks may require processes that are more than "common" or "ordinary" in order for the at-risk individuals to successfully overcome the adversity they experienced. In line with this thinking, we had hoped to examine how adjustment varied by maltreatment type, but due to small cell sizes for each type of maltreatment, our power was limited and we were not able to conduct such detailed analyses. This is certainly an area that future studies can address and with a larger sample size will be able to examine how different types of maltreatment are related to college adjustment.

In addition to revealing differences in adjustment, negative life events, and the processes by which total social/emotional resources impact adjustment, our analyses also highlighted the differences in protective factors between men and women. We discovered that maltreated women had more Community protective factors than maltreated men, a finding that provided some support for our hypothesis that protective factors would vary as a function of gender, such that women would emphasize more social factors (Community and Family Factors) and men would emphasize more personal factors (Individual Factors). Because of power issues, we were not able to look deeper into differences in the protective factors at the individual level between maltreated men and women. We were, however, able to look at individual level differences in

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protective factors broadly between men and women with a relative weight analysis. Our results indicated that Self-Esteem, Faith, and Talent were the most important predictors for men and Self-Esteem and Good Schools were the most important predictors for women. Again, this provided support for our hypothesis about gender differences in protective factors, with only individual factors being important predictors for men and both individual and community factors being important for women.

We also found differences in protective factors at the individual level between the non-maltreated and maltreated groups. In order to get a sense of the factors that were most associated with adjustment for both the maltreated and non-maltreated groups, we conducted a simultaneous multiple regression using a simplified model that just contained the nine protective factors. For maltreated students, Self-Esteem, Good Schools, and Talent were significant predictors of adjustment. For the non-maltreated students, only Self-Esteem was a significant predictor of college adjustment. We then used relative weight analysis to indicate which factors contributed most to the variance explained by our full model (all nine protective factors plus negative life events and maltreatment), and found that Self-Esteem and Good Schools explained the most variance in college adjustment for the maltreated group, whereas Self-Esteem and Faith explained the most variance for the non-maltreated group.

As we looked at the difference in protective factors, Self-Esteem emerged again and again as a strong predictor of adjustment. We think this occurred because it is actually what underlies self-esteem (aka the belief that "I'm doing okay") that matters for adjustment. In short, in order to believe that one is "doing okay," one must receive messages that they are, in fact, doing okay. In order to get these messages, one must actually be doing okay. Thus, self-esteem as a predictor is rooted in "doing okay" as a child, which is naturally highly correlated with

"doing okay" as an adult; hence the strong relationship between self-esteem and adjustment and its strength as a predictor.

Limitations and Directions for Future Research

As with any study, several limitations to this study exist. First, the study's small sample size kept us from being able to examine the impact of different types of neglect and abuse on college adjustment. We had originally hoped to look within the five types of abuse and neglect measured for the study to understand the resilience processes specific to each type of maltreatment, but it quickly became clear that this would not be possible because we didn't have enough students in each category. Also, given the high rate of co-occurring maltreatment, we didn't have enough students with "pure" types of maltreatment to be able to carry out our analyses without having convoluted results.

Another limitation comes from possible restriction of range. Most students in the study had only low levels of maltreatment, if any at all, and this could represent a restriction of range in that individuals with severe maltreatment might not be making it to college by virtue of their incredibly impactful trauma, thereby preventing their inclusion in our study. If this is the case, our study ends up highlighting resilience processes for individuals with low-level maltreatment and may not be generalizable to more severe forms of maltreatment.

A third limitation is that the criterion we used to classify maltreatment may have been too liberal. If the students endorsed anything other than *never occurred* on the maltreatment scales, they were considered maltreated. In reviewing the items of the CMQ abuse and neglect scales, however, perhaps a *rare* occurrence on a single item may not always be maltreatment. For example, the item "I had to fend for myself because there was no one around to supervise me," when at a low level of occurrence, likely doesn't represent maltreatment but rather reflects any

number of normal family dynamics in which the parents weren't always available to supervise their children. This issue may be particularly salient when we look at the results for men, who were most likely to be classified as experiencing supervision neglect. By labeling them as maltreated we may have diluted the strength of the relationship between maltreatment and adjustment in men, resulting in the non-significant results obtained with the hierarchical regression. On the other hand, even a "rare" occurrence of sexual abuse or physical abuse *is* likely maltreatment.

A fourth limitation was related to the nature of data collection. Data collection was retrospective and participants were required to remember and report the occurrence of negative events in their lives. Data was therefore dependent on the accurate recollection of life events, and potential bias always exists when recall is included in data collection.

Future research studies should seek to collect data from community samples in addition to a college sample so that restriction of range with regard to severity of maltreatment might be avoided. Although our study was specifically interested in college adjustment of abused and neglected students, future studies would benefit from having a much larger sample size so that there is enough power to examine the relationship between specific types of maltreatment and adjustment, rather than just conducting analyses on an aggregate maltreatment variable. A larger sample size and more power will also allow future researchers to examine in greater detail how protective factors influence adjustment and vary as a function of gender. For this study we had to stay at the domain level due to a lack of power and were not able to look individually at the several types of protective factors measured by the SERI.

Researchers should also seek to clarify the timing of maltreatment and negative life events so that a casual model of maltreatment and negative life events can be further examined.

As we noted previously, our results suggest that negative life events mediate the relationship between maltreatment and adjustment in women, but without more information about whether maltreatment occurs before negative life events, we are left with the possibility that maltreatment could be a mediating variable between negative life events and college adjustment.

Implications

Previous literature has documented the relationship between maltreatment, protective factors, and resilience. This study has helped to clarify facts about childhood maltreatment and resilience in college students. We have confirmed in this study that maltreatment is a relatively common phenomenon that is associated with poor outcomes for abused and neglected students in college. We have improved on previous research by looking at five different types of maltreatment, as well as co-occurring maltreatment, which makes our results more representative of the real-world outcomes of neglect and abuse. We have examined gender differences in rates of maltreatment in outcomes in response to maltreatment, and in protective factors that promote more positive outcomes for students with abuse and neglect histories. Specifically, we found that maltreated women seem to demonstrate less resilience to maltreatment, have more negative life events, and have more community protective factors as compared to maltreated men. We contributed to greater cohesion and clarity of protective factor research by using a previously developed measure of protective factors and found that protective factors do seem to vary by gender. We proposed an explanation for this based on gender socialization and in doing so provide future researchers with the opportunity to test several more theory-based hypotheses about how gender impacts protective factors. Finally, our study demonstrated that resilience is quite common – 64.8% of maltreated women and 82.4% of maltreated men demonstrated good adjustment in our sample. Importantly, however, we also identified that female resilience is not

as "common" as male resilience, indicating that perhaps the resilience processes in women are different from men and that for women, "extraordinary magic" may need to happen in order for good adaptation to occur. This information could be used to provide many benefits to maltreated men and women and could be used to inform the development and implementation of interventions designed to address the reduced resilience of abused and neglected women.

Conclusion

This study examined the prevalence of maltreatment in a college sample and identified the relationship between maltreatment and college adjustment in men and women. Results indicate that maltreated men in college have more resilient outcomes than maltreated women in college and several reasons for this difference were discussed. Overall, negative life events and social/emotional resources are thought to be two important variables in understanding the relationship between maltreatment and adjustment. Future studies can extend the results of this study by examining maltreatment in both college and community samples, collecting data from a larger sample of individuals, and perhaps using a more stringent criterion for classifying maltreatment in the sample.
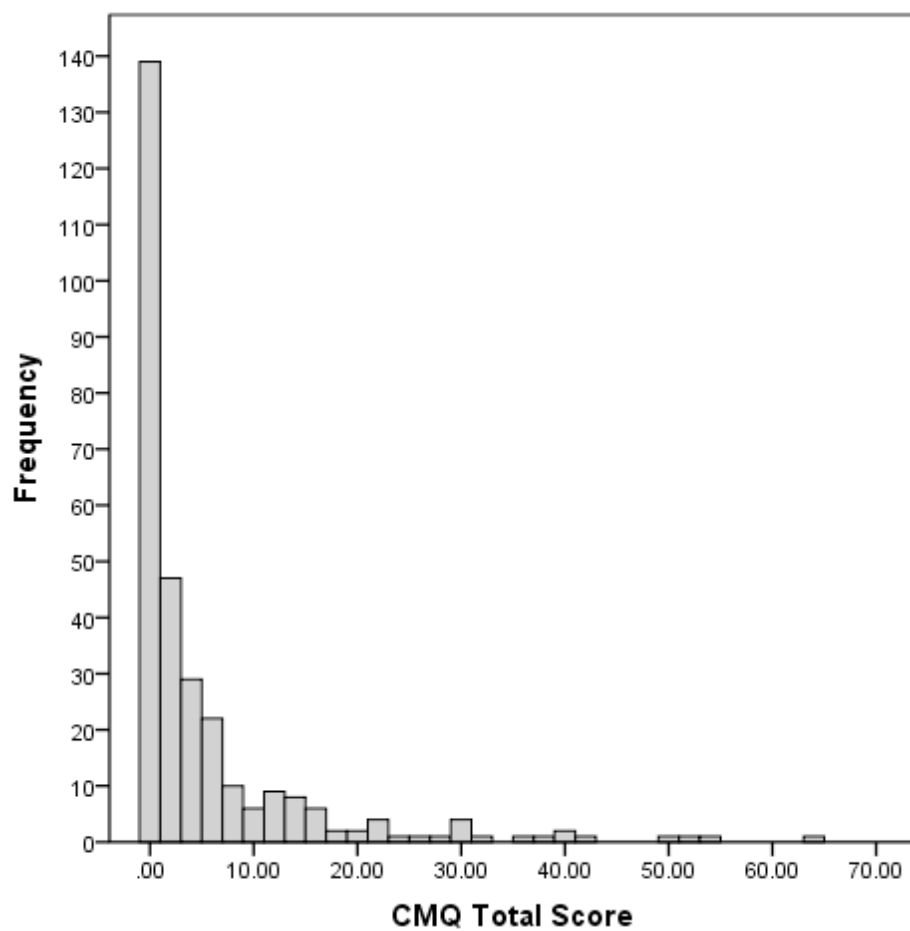
Figure 1. Histogram of CMQ Total Scores for entire sample.
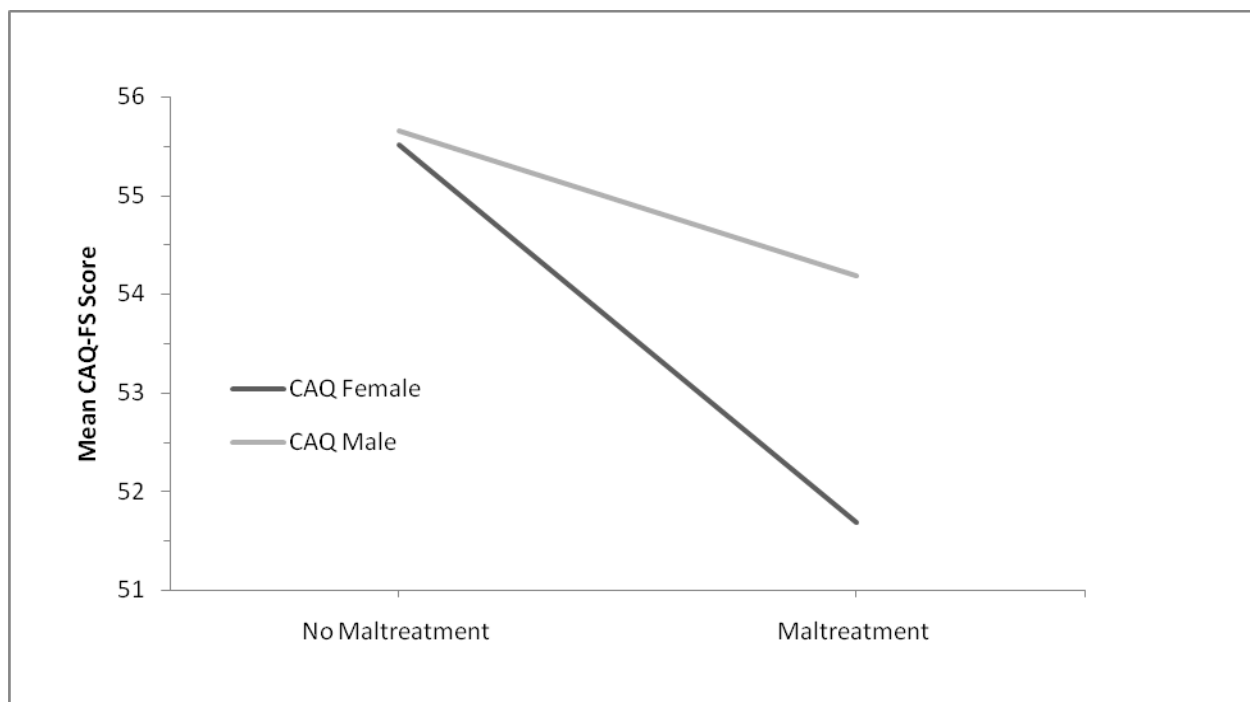
Figure 2. CAQ-FS Scores by Gender and Maltreatment.
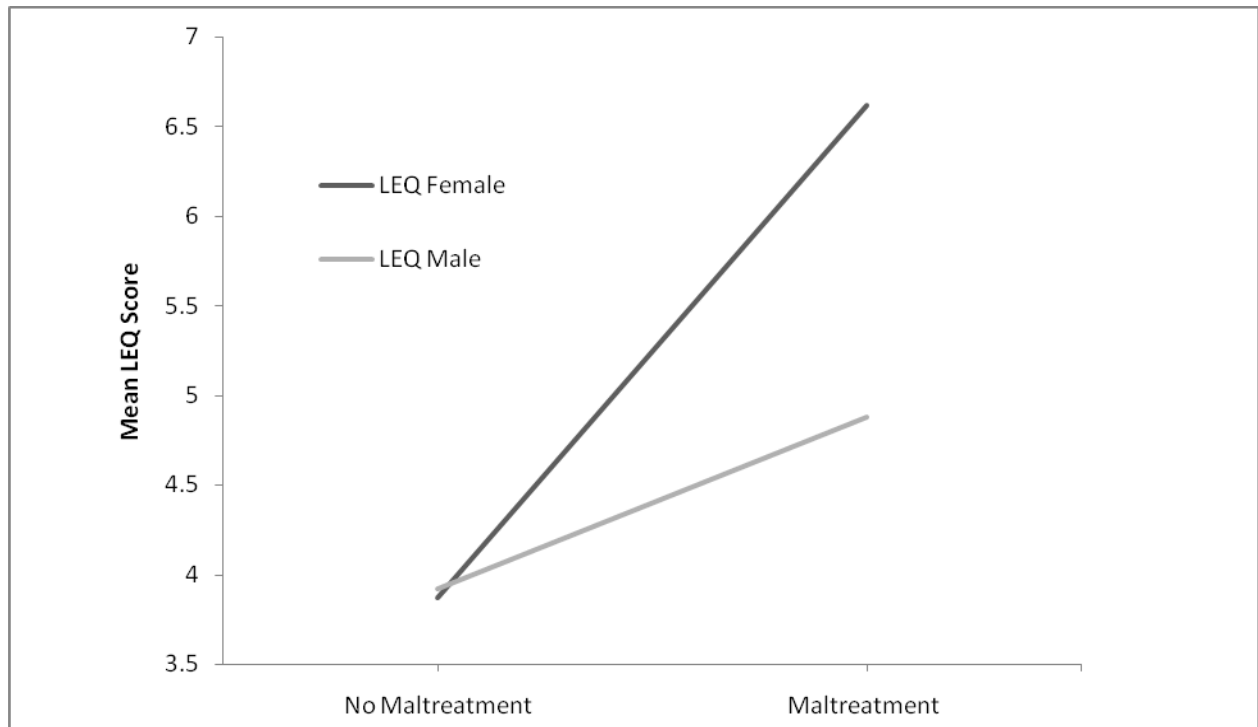
Figure 3. LEQ Scores by Gender and Maltreatment.

Figure 4. SERI Scores by Gender and Maltreatment.
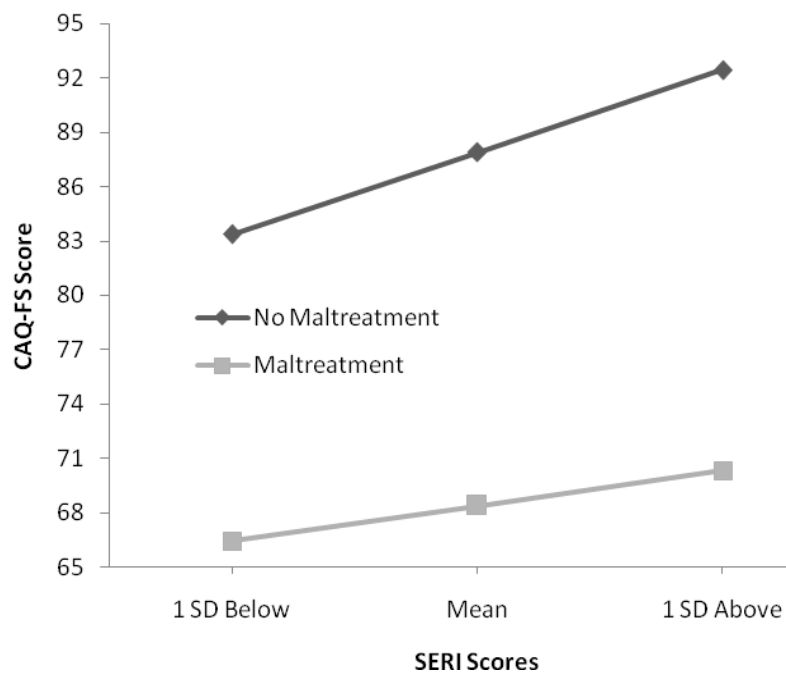
Figure 5. Moderating Effect of SERI on the Relationship between Maltreatment and College Adjustment in Men.

Table 1. Rates of maltreatment by sample and by maltreatment type.

	Overall Maltreatment	Emotional Abuse	Physical Abuse	Sexual Abuse	Emotional Neglect	Physical Neglect	Supervision Neglect
Whole sample (N = 301)	53.8%	29.9%	25.9%	10.0%	24.3%	5.3%	30.9%
Maltreated sample (N = 162)	--	55.6%	48.1%	18.5%	45.1%	9.9%	57.4%

Table 2. Correlations between the CMQ subscales and fullscale.

	Emotional Abuse	Physical Abuse	Sexual Abuse	Emotional Neglect	Physical Neglect	Supervision Neglect	Maltreatment Total
Emotional Abuse	1	.74**	.30**	.78*	.49**	.40**	.90**
Physical Abuse	.74**	1	.25**	.60**	.47**	.38**	.84**
Sexual Abuse	.30**	.25**	1	.28**	-.03	.12*	.47**
Emotional Neglect	.78**	.60**	.28**	1	.45**	.40**	.85**
Physical Neglect	.49**	.47**	-.03	.45**	1	.43**	.55**
Supervision Neglect	.40**	.38**	.12*	.40**	.43**	1	.60**
Maltreatment Total	.90**	.84**	.47**	.85**	.55**	.60**	1

** correlation is significant at the .01 level
* correlation is significant at the .05 level

Table 3. Rates of maltreatment by gender and by sample.

	Overall Maltreatment	Emotional Abuse	Physical Abuse	Sexual Abuse	Emotional Neglect	Physical Neglect	Supervision Neglect
Women (N)					39	5	41
% of total N=301	88	54	34	21	13.0%	1.7%	13.6%
% of all mal	29.2%	17.9%	11.3%	7.0%	24.1%	3.1%	25.3%
N=162	--	33.3%	21.0%	13.0%	53.4%	31.3%*	44.1%**
% of specific type	--	60.0%	43.6%**	70.0%*			
Men (N)					34	11	52
% of total N=301	74	36	44	9	11.3%	3.7%	17.3%
% of all mal	24.6%	12.0%	14.6%	3.0%	21.0%	6.8%	32.1%
N=162	--	22.2%	27.2%	5.6%	46.6%	68.8%*	55.9%**
% of specific type	--	40.0%	56.4%**	30.0%*			

**$p < .05$ difference between men and women.
*$p > .05 < .1$ (approaching significance).

Table 4. Rates of co-occurring maltreatment by gender and sample.

	No Maltreatment	1 Type	2 Types	3 Types	4 Types	5 Types	6 Types
Women (N)					10	4	0
% of total N=301		35	18	21	3.3%	1.3%	0%
% of all mal		11.6%	6.0%	7.0%	6.2%	2.5%	0%
N=162	--	21.6%	11.1%	13.0%	66.7%	26.7%	0%
% of specific type	--	60.3%	43.9%	67.7%			
Men (N)					5	11	2
% of total N=301		23	23	10	1.7%	3.7%	.66%
% of all mal		7.6%	7.6%	3.3%	3.1%	6.8%	1.2%
N=162	--	14.2%	14.2%	6.2%	33.3%	73.3%	100.0%**
% of specific type	--	39.7%	56.1%	32.3%*			

**$p < .05$ difference between men and women.

Table 5. Proportion of students with poor or good adjustment by gender and maltreatment.

Group	Level of adjustment	Descriptive Statistics	Female	Male
Non-Maltreated	Poor Adjustment	N	13	8
		% of gender	17.3%	12.5%
		% of non-mal group	9.4%	5.8%
	Good Adjustment	N	62	56
		% of gender	82.7%	87.5%
		% of non-mal group	44.6%	40.3%
Maltreated	Poor Adjustment	N	31*	13*
		% of gender	35.2%	17.6%
		% of mal group	19.1%	8.0%
	Good Adjustment	N	57	61
		% of gender	64.8%	82.4%
		% of mal group	35.2%	37.7%

* $p < .05$ difference between proportion of men and women in the group

Table 6. Summary of Multiple Regression Analysis for CAQ-SF on SERI Protective Factors in Maltreated Sample (N = 162).

Variable	B	SE(B)	β	t	Sig. (p)
Constant (Intercept)	41.27	5.57	--	--	--
SERI – Intelligence	-.294	.31	-.08	-.96	.341
SERI – Positive Caregiving	-.619	.41	-.20	-1.51	.132
SERI – Good Schools	1.111	.27	.33	4.07	.000
SERI – Parental Expectations	-.444	.51	-.07	-.87	.384
SERI – Self-Esteem	.814	.19	.37	4.22	.000
SERI – Talent	.530	.27	.18	1.98	.050
SERI – Faith	-.159	.13	-.09	-1.25	.213
SERI – Family Connectedness	.105	.42	.03	.25	.804
SERI – Financial Resources	-.197	.17	-.09	-1.16	.250

Note: $R^2 = .244$.

Table 7. Summary of Multiple Regression Analysis for CAQ-SF on SERI Protective Factors in Non-Maltreated Sample (N = 139).

Variable	B	SE(B)	β	t	Sig. (p)
Constant (Intercept)	31.98	10.92	--	--	--
SERI – Intelligence	.08	.39	.02	.20	.843
SERI – Positive Caregiving	-.44	.76	-.07	-.57	.567
SERI – Good Schools	.27	.41	.06	.65	.515
SERI – Parental Expectations	-.16	.71	-.02	-.22	.827
SERI – Self-Esteem	1.00	.31	.33	3.26	.001
SERI – Talent	.18	.35	.05	.52	.603
SERI – Faith	.26	.17	.15	1.57	.118
SERI – Family Connectedness	.59	.91	.08	.65	.517
SERI – Financial Resources	.03	.22	.01	.12	.908

Note, $R^2 = .228$.

Table 8. Summary of Hierarchical Multiple Regression Analysis for Women (N = 162).

	Variable	B	SE(B)	β	t	Sig. (p)
Model 1	Constant (Intercept)	55.51	.94	--	--	--
	Some Maltreatment	-3.84	1.27	-.23	-3.02	.003
Model 2	Constant (Intercept)	55.90	.97	--	--	--
	Some Maltreatment	-2.71	1.36	-.16	-2.00	.048
	LEQ (centered at mean for women)	-.40	.19	-.18	-2.16	.032
Model 3	Constant (Intercept)	54.32	.96	--	--	--
	Some Maltreatment	-1.65	1.37	-.10	-1.20	.231
	LEQ (centered at mean for women)	-.18	.20	-.08	-.91	.364
	SERI-FS (centered at mean for women)	.18	.06	.27	3.08	.002
Model 4	Intercept (Constant)	54.08	1.05	--	--	--
	Some Maltreatment	-1.50	1.40	-.09	-1.07	.286
	LEQ (centered at mean for women)	-.18	.20	-.08	-.93	.353
	SERI-FS (centered at mean for women)	.23	.10	.33	2.30	.023
	Interaction Term (SERI-FS X Some Mal)	-.07	.12	-.08	-.57	.568

Note: Final R^2 = .135.

Table 9. Summary of Hierarchical Multiple Regression Analysis for Men (N = 139).

	Variable	B	SE(B)	β	t	Sig. (p)
Model 1	Some Maltreatment	-1.48	1.09	-.12	-1.36	.177
Model 2	Some Maltreatment	-1.19	1.09	-.09	-1.09	.276
	LEQ (centered at mean for men)	-.30	.16	-.16	-1.85	.066
Model 3	Some Maltreatment	.17	1.03	.01	.16	.873
	LEQ (centered at mean for men)	.05	.16	.03	.31	.757
	SERI-FS (centered at mean for men)	.21	.04	.47	5.32	.000
Model 4	Some Maltreatment	.37	1.01	.03	.37	.712
	LEQ (centered at mean for men)	.03	.16	.01	.17	.867
	SERI-FS (centered at mean for men)	.32	.06	.71	5.5	.000
	Interaction Term (SERI-FS X Some Mal)	-.18	.07	-.31	-2.51	.013

Note: Final R^2 = .241.

Table 10. Summary of LEQ Mediation Analysis for Women.

	Variable	B	SE(B)	β	t	Sig. (p)
CAQ on Maltreatment (R^2 = .054)	Constant (Intercept)	55.51	.93	--	--	--
	Some Maltreatment	-3.83	1.26	-.23	-3.04	.003
LEQ on Maltreatment (R^2 = .144)	Constant (Intercept)	-1.48	.39	--	--	--
	Some Maltreatment	2.78	.53	.38	5.20	.000
CAQ on Maltreatment and LEQ (R^2 = .081)	Constant (Intercept)	54.91	.95	--	--	--
	Some Maltreatment	-2.73	1.35	-.17	-2.02	.045
	LEQ	-.40	.19	-.18	-2.17	.032

Table 11. Summary of SERI Mediation Analysis for Women.

	Variable	B	SE(B)	β	t	Sig. (p)
CAQ on Maltreatment (R² = .054)	Constant (Intercept)	55.51	.93	--	--	--
	Some Maltreatment	-3.83	1.26	-.23	-3.04	.003
SERI on Maltreatment (R² = .144)	Constant (Intercept)	4.93	1.29	--	--	--
	Some Maltreatment	-9.14	1.75	-.38	-5.21	.000
CAQ on Maltreatment and SERI (R² = .128)	Constant (Intercept)	54.51	.93	--	--	--
	Some Maltreatment	-1.99	1.31	-.12	-1.51	.132
	SERI	.20	.06	.30	3.59	.000

Table 12. Relative Weight Analysis for Full Sample (N = 301).

Variable	Relative Weight	Raw Weight	95% CI Difference Between Predictor Raw Weight & Random Raw Weight	
			LL	UL
LEQ	9.79%	0.0246	0.0020	0.0750
CMQ Total Score	1.54%	0.0039	-0.0202	0.0094
SERI – Intelligence	2.92%	0.0073	-0.0082	0.0406
SERI – Positive Caregiving	2.55%	0.0064	-0.0172	0.0134
SERI – Good Schools	18.65%	0.0468	0.0146	0.0966
SERI – Parental Expectations	0.77%	0.0019	-0.0230	0.0067
SERI – Self-Esteem	43.23%	0.1085	0.0614	0.1661
SERI – Talent	13.71%	0.0344	0.0090	0.0950
SERI – Faith	3.09%	0.0077	-0.0101	0.0398
SERI – Family Connectedness	1.79%	0.0045	-0.0166	0.0155
SERI – Financial Resources	1.95%	0.0049	-0.0218	0.0172

Note: Total R^2 = .251, Random Relative Weight = .65%

Table 13. Relative Weight Analysis for Maltreated Sample (N = 162).

	Relative Weight	Raw Weight	95% CI Difference Between Predictor Raw Weight & Random Raw Weight	
			LL	UL
LEQ	8.41%	0.0224	-0.0139	0.0726
CMQ Total Score	2.31%	0.0062	-0.0350	0.0188
SERI – Intelligence	1.47%	0.0039	-0.0534	0.0125
SERI – Positive Caregiving	2.44%	0.0065	-0.0359	0.0120
SERI – Good Schools*	28.10%	0.0749	0.0169	0.1406
SERI – Parental Expectations	1.13%	0.003	-0.0489	0.0092
SERI – Self-Esteem*	36.35%	0.0969	0.0371	0.1694
SERI – Talent	14.77%	0.0394	-0.0067	0.0896
SERI – Faith	1.42%	0.0038	-0.0385	0.0174
SERI – Family Connectedness	1.35%	0.0036	-0.0457	0.0092
SERI – Financial Resources	2.25%	0.006	-0.0474	0.0158

Note: Total R^2 = .267, Random Relative Weight = 3.02%
*significant predictor

Table 14. Relative Weight Analysis for Non-Maltreated Sample (N = 139).

	Relative Weight	Raw Weight	95% CI Difference Between Predictor Raw Weight & Random Raw Weight LL	UL
LEQ	8.41%	0.0204	-0.0065	0.0970
SERI – Intelligence	4.85%	0.0118	-0.0097	0.0642
SERI – Positive Caregiving	1.33%	0.0032	-0.0244	0.0238
SERI – Good Schools	4.79%	0.0116	-0.0124	0.0734
SERI – Parental Expectations	0.28%	0.0007	-0.0269	0.0243
SERI – Self-Esteem*	45.23%	0.1099	0.0555	0.2229
SERI – Talent	10.98%	0.0267	-0.0076	0.0907
SERI – Faith*	18.16%	0.0441	0.0026	0.1260
SERI – Family Connectedness	3.16%	0.0077	-0.0052	0.1432
SERI – Financial Resources	2.81%	0.0068	-0.0199	0.0561

Note: Total R^2 = .243, Random Relative Weight = .08%
*significant predictor

Table 15. Relative Weight Analysis for Male Sample (N = 138).

| | | | 95% CI Difference Between Predictor Raw Weight & Random Raw Weight | |
	Relative Weight	Raw Weight	LL	UL
LEQ	2.80%	0.0077	-0.0119	0.0580
CMQ Total Score	2.44%	0.0067	-0.0086	0.0378
SERI – Intelligence	3.18%	0.0087	-0.0070	0.0602
SERI – Positive Caregiving	3.73%	0.0102	-0.0086	0.0496
SERI – Good Schools	10.98%	0.0301	-0.0025	0.0959
SERI – Parental Expectations	3.45%	0.0095	-0.0089	0.0539
SERI – Self-Esteem*	29.11%	0.0798	0.0257	0.1587
SERI – Talent*	13.76%	0.0377	0.0040	0.0923
SERI – Faith*	25.13%	0.0689	0.0119	0.1660
SERI – Family Connectedness	3.02%	0.0083	-0.0143	0.0366
SERI – Financial Resources	2.39%	0.0066	-0.0125	0.0475

Note: Total R^2 = .274, Random Relative Weight = .28%
*significant predictor

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Table 16. Relative Weight Analysis for Female Sample (N = 163).

| | | | 95% CI Difference Between Predictor Raw Weight & Random Raw Weight | |
	Relative Weight	Raw Weight	LL	UL
LEQ	10.80%	0.0322	-0.0037	0.0872
CMQ Total Score	1.91%	0.0057	-0.0473	0.0121
SERI – Intelligence	2.26%	0.0067	-0.0330	0.0482
SERI – Positive Caregiving	2.33%	0.0069	-0.0459	0.0145
SERI – Good Schools*	21.51%	0.0642	0.0049	0.1461
SERI – Parental Expectations	1.58%	0.0047	-0.0381	0.0251
SERI – Self-Esteem*	43.18%	0.1289	0.0513	0.2002
SERI – Talent	11.50%	0.0343	-0.0057	0.1044
SERI – Faith	0.87%	0.0026	-0.0526	0.0121
SERI – Family Connectedness	2.05%	0.0061	-0.0379	0.0239
SERI – Financial Resources	2.02%	0.006	-0.0658	0.0147

Note: Total R^2 = .299, Random Relative Weight = 1.62%
*significant predictor

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Appendix A

Childhood Maltreatment Questionnaire (CMQ) – **Abuse Scale**
(Grouped Version)

Listed below are statements that describe experiences with maltreatment that people may have had when they were growing up. Some of the experiences can be very common and others not as common. **Please indicate how often each of the following occurred while you were a child**. So that you can describe your experiences in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then circle the number that best describes your experience.

Response Options
1: Never   **2**: Rarely   **3**: Sometimes **4**: Often   **5**: Very Often

When I was a child:

(Physical Abuse)
4. I was hit hard enough by a parent/guardian to have to receive medical care
12. I was physically hurt by a parent/guardian
18. I was hit hard enough by a parent/guardian to leave marks on my skin
26. One of my caregivers physically abused me
35. I experienced non-accidental physical injury from a parent/guardian

(Sexual Abuse)
5. I was touched in a sexual way by a person older than me
19. I was sexually molested by a person older than me
23. I was sexually abused as a child
28. A person older than me made me show them my genitals for their sexual gratification
44. I was coerced into unwanted sexual behavior

(Emotional Abuse)
11. One of my caregivers said degrading things to me
17. I was emotionally maltreated by a parent/guardian
25. A caregiver said things that indicated they cared very little for my wellbeing
34. A parent/guardian emotionally abused me

(Love – Abuse Scale)
9. I felt cared for by my parents/guardians
16. I felt safe with all of my caregivers
21. I could trust that none of my caregivers would intentionally hurt me
31. I felt supported by all of my caregivers
39. All of my caregivers were "there for me" when I was growing up

Childhood Maltreatment Questionnaire (CMQ) – **Neglect Scale**

(Grouped Version)

Listed below are statements that describe experiences with maltreatment that people may have had when they were growing up. Some of the experiences can be very common and others not as common. **Please indicate how often each of the following occurred while you were a child**. So that you can describe your experiences in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then circle the number that best describes your experience.

Response Options
1: Never   **2**: Rarely   **3**: Sometimes **4**: Often   **5**: Very Often

When I was a child:

(Physical Neglect)
14. My physical care was neglected by a parent/guardian
30. I went hungry because a parent/guardian did not feed me
46. One of my caregivers did not bathe me, even when I was clearly dirty
47. A caregiver did not dress me appropriately for the weather

(Emotional Neglect)
15. A parent/guardian refused or failed to provide the affection I needed
20. My emotional needs were not met by a parent/guardian
37. One of my caregivers failed to proved adequate emotional care for me
42. I was emotionally neglected by a parent/guardian

(Supervision Neglect)
8. I was left alone and unsupervised for significant periods of time as a young child
22. I had to fend for myself because there was no one around to supervise me
32. A parent/guardian left me by myself even though there should have been someone watching me

(Love – Neglect Scale)
16. I felt safe with all of my caregivers
21. I could trust that none of my caregivers would intentionally hurt me
31. I felt supported by all of my caregivers
39. All of my caregivers were "there for me" when I was growing up

Appendix B

Life Events Questionnaire (LEQ)

(Items that contributed to LEQ for this study are identified with an asterisk)

This questionnaire contains statements describing events that can happen in the life of any child or in any family. Some of them will apply to your family – meaning you, your parents, and brothers and sisters. Many will not. Please read each statement very carefully and decide whether it is something that happened to you (or your family) while you were growing up.

If the event happened to you or your family, please circle YES. If the event *did not* happen to you or your family, please circle NO. Please answer all of the items as honestly and quickly as you can.

Circle One

1. I had a new brother or sister who was born.	YES	NO
2. Our family moved to a new home or apartment.	YES	NO
3. I changed schools.	YES	NO
4. I became seriously ill or was injured.	YES	NO
*5. My brother or sister became seriously ill or was injured.	YES	NO
*6. At least one parent became seriously ill or was injured.	YES	NO
7. I was involved in a serious accident.	YES	NO
8. I was left with a visible physical handicap due to an accident, injury, or illness.	YES	NO
9. I had an important change in physical appearance which upset me (acne, braces, glasses, physical development, etc.).	YES	NO
*10. I was a victim of violence (mugging, sexual assault, robbery).	YES	NO
*11. A member of my family was a victim of violence (mugging, sexual assault, robbery).	YES	NO
*12. One of my parents died.	YES	NO
*13. A brother or sister died.	YES	NO
*14. A grandparent died.	YES	NO
*15. One of my close friends died.	YES	NO
16. Another adult came to live with my family.	YES	NO
17. I left home to live under the care of another parent, relative, or others.	YES	NO
18. I left home to live on my own.	YES	NO
19. I ran away from home.	YES	NO
*20. A member of my family ran away from home.	YES	NO
*21. My parents separated.	YES	NO
*22. My parents divorced.	YES	NO
23. One of my parents remarried.	YES	NO
24. I had at least one outstanding personal achievement.	YES	NO

25. I was voted or appointed to a leadership position (for example,
    class office, team captain, etc.).   YES   NO

26. I received a special award (ribbon, trophy, plaque, certificate, etc)
    for something *done at school*.   YES   NO
27. I received a special award for some activity *outside of school*
    (ribbon, trophy, plaque, certificate, etc.).   YES   NO
28. I received special recognition for athletic competition.   YES   NO
29. I did not get into a group or activity that I wanted to get into
    (music group, sports team, theater, etc.).   YES   NO
30. I failed a grade or was "held back."   YES   NO

31. I did much worse than I expected in an important exam or course.   YES   NO
32. I was threatened with suspension or was suspended from school
    at least once.   YES   NO
33. I became pregnant. (for females)   YES   NO
34. I got someone pregnant. (for males)   YES   NO
35. An unmarried family member became pregnant.   YES   NO

*36. One of my parents had problems at work (demotion, trouble
    with boss or co-workers, change in working hours, etc.).   YES   NO
*37. One parent lost his or her job.   YES   NO
38. My mother began to work.   YES   NO
39. There was a change in a parent's job so that my parent was
    away from home more often.   YES   NO
40. I had little contact with one parent.   YES   NO

41. I tried to get a job and failed.   YES   NO
*42. The family financial situation was difficult.   YES   NO
43. There was some damage or loss of family property (such as
    apartment, house, car, or bike).   YES   NO
*44. The family had funds cut off by some government agency
    (for example: welfare, food stamps, AFDC, disability, etc.).   YES   NO
*45. My family was evicted from a house or apartment.   YES   NO

46. I had many arguments with brother(s) and/or sister(s).   YES   NO
47. I had many arguments with my parent(s).   YES   NO
48. My parent(s) and I had many arguments over my choice of
    friends, and/or social activities, such as the use of the car or
    hours to stay out.   YES   NO
*49. There were many arguments between adults living in the house.   YES   NO
*50. There were many arguments between a parent and a former or
    separated spouse.   YES   NO

51. There were many arguments with in-laws or relatives.   YES   NO
52. I was not accepted by people my age.   YES   NO

53. I had suicidal thoughts.	YES	NO
*54. A member of my family committed suicide.	YES	NO
*55. A member of my family developed severe emotional problems.	YES	NO
56. I became involved with alcohol or drugs.	YES	NO
*57. A brother or sister became involved with alcohol or drugs.	YES	NO
*58. A parent had trouble with alcohol or drugs.	YES	NO
59. I got in trouble with the law.	YES	NO
60. I went to jail.	YES	NO
*61. A brother or sister was arrested or went to jail.	YES	NO
*62. A parent was arrested or went to jail.	YES	NO
63. I began to date.	YES	NO
64. I began "going steady", despite my parent's disapproval.	YES	NO
65. I got married, despite my parent's disapproval.	YES	NO
66. I broke up with a girlfriend or boyfriend.	YES	NO
67. I lost a close friend.	YES	NO

Appendix C

College Adjustment Questionnaire (CAQ)

(Grouped Version)

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

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

Appendix D

Social/Emotional Resources Inventory – Revised

(Grouped Version)

The following statements describe things that may or may not have been true while you were growing up. **Please use the rating scale below to indicate how accurately each statement describes your childhood.** 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

	Very Inaccurate				Very Accurate
When I was growing up:					
(Intelligence)					
1. I was intelligent	1	2	3	4	5
10. I was smart	1	2	3	4	5
17. I was bright	1	2	3	4	5
(Positive Caregiving)					
2. I received warm parenting	1	2	3	4	5
11. My parents were loving	1	2	3	4	5
18. I was emotionally close to my parents	1	2	3	4	5
(Good Schools)					
3. My school met students' academic needs	1	2	3	4	5
12. I received a good education	1	2	3	4	5
19. My school had skilled teachers	1	2	3	4	5
(Parental Expectations)					
4. My parents had high expectations for me	1	2	3	4	5
20. My parents expected me to succeed	1	2	3	4	5
(Self-Esteem)					
5. I had strong self-confidence	1	2	3	4	5
21. I had high self-esteem	1	2	3	4	5
26. I believed in myself	1	2	3	4	5
(Talent)					
6. I had a talent (i.e., talented in sports, music, drama, academics, etc.)	1	2	3	4	5
13. I was skilled in at least one activity	1	2	3	4	5

22. Others noticed my special ability in an activity   1   2   3   4   5
   (e.g., sports, music, drama, academics, etc.)

(Faith)
7. I had a strong sense of faith or spirituality	1	2	3	4	5
14. My faith or spirituality was important to me	1	2	3	4	5
23. Religion/spirituality was a central part of my life	1	2	3	4	5

(Family Connectedness)
8. I felt connected to a parent/guardian	1	2	3	4	5
15. A parent/guardian in the home looked out for me	1	2	3	4	5
24. I had a parent/guardian I could rely on	1	2	3	4	5

(Financial Resources)
9. My family did not have to worry excessively
   about money   1   2   3   4   5
16. My family was financially comfortable   1   2   3   4   5
25. My family was able to afford the things we needed   1   2   3   4   5

Appendix E

Demographic Information Form

1. Age: _____

2. Gender: (check one)
        Female
        Male
        Transgender

3. Year in school:
        Freshman
        Sophomore
        Junior
        Senior
        Fifth year or above

4. Ethnicity: (check all that apply)
        African American/Black   Hispanic/Latino
        Alaska Native   Native Hawaiian or Pacific Islander
        American Indian/Native American White non-Hispanic
        Asian American/ Asian   Some other race/ethnicity

5. Sexual orientation:
        Bisexual
        Gay/Lesbian
        Heterosexual
        Other

6. Relationship status:
        Not in a relationship
        In a relationship
        Married/Civil union
        Divorced/Separated
        Widowed

7. Highest level of education completed by mother:
        Elementary school   Two year degree
        Some high school   Four year degree
        High school   Graduate degree
        Some college

Mother's job: _____

8. Highest level of education completed by father:

Elementary school   Two year degree

Some high school   Four year degree

High school   Graduate degree

Some college

Father's job: _____