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## **Moderating Effects of Gender and Coping Style on the Relationship Between Childhood Maltreatment and Social Anxiety**

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MODERATING EFFECTS OF GENDER AND COPING STYLE ON THE  
RELATIONSHIP BETWEEN CHILDHOOD MALTREATMENT AND SOCIAL  
ANXIETY

BY  
BRYANA E. KILLION

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF ARTS  
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UNIVERSITY OF RHODE ISLAND

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MASTER OF ARTS THESIS

OF

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## ABSTRACT

The relationship between childhood maltreatment and maladaptive outcomes, such as increased rates of psychopathology, is well-documented in the literature. Specifically, research has indicated that higher rates of social anxiety are observed in maltreatment victims in comparison to the general population. These rates also appear to differ according to gender, with higher prevalence rates being observed among females. However, although the relationship between childhood maltreatment and social anxiety has been substantiated, little is known about the mechanisms that contribute to its development and perpetuation over time. A developing body of literature has suggested that coping styles (i.e., task-oriented, emotion-oriented, avoidance) may influence the relationship between maltreatment and subsequent outcomes, and additional research has indicated that endorsement of particular coping styles may also differ by gender. Given this, the present study sought to examine the moderating effects of both coping styles and gender on the relationship between childhood maltreatment severity and social anxiety. Gender differences in coping style were also explored.

Participants included 213 undergraduate students at a medium-sized, northeastern university. Participants completed a packet of self-report questionnaires and were provided with extra credit for their participation. Childhood maltreatment severity, social anxiety, and each of the three coping styles was scored continuously. Moderator analyses were conducted utilizing hierarchical multiple regression, and gender differences in coping style were examined through a multivariate analysis of variance (MANOVA).

In contrast to the proposed hypotheses, neither coping style nor gender moderated

the relationship between maltreatment severity and social anxiety. Additionally, no gender differences in coping style were observed. The present results suggest that the relationship between childhood maltreatment severity and social anxiety is vastly complex and necessitates additional research. Implications, limitations, and future directions for research are discussed in light of these results.

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## **Introduction**

### **Statement of Problem**

Numerous studies have verified both the short-term and long-term adverse consequences of childhood maltreatment. Research has indicated that victims of childhood maltreatment are at a higher risk for a number of maladaptive outcomes, including poor psychosocial functioning and increased rates of psychopathology. Specifically, increased rates of social anxiety have been observed consistently in individuals who experienced maltreatment during childhood. Researchers believe that childhood maltreatment may negatively influence the development of victims' schemas, which arise during childhood and often reflect the tone of one's early environment (Shahar et al., 2015). Maltreatment may contribute to the development of social anxiety disorder through the internalization of a shame-based schema that is marked by a sense of inadequacy, deep self-criticism, and a high level of self-monitoring. Early experiences of harsh criticism and rejection during childhood may lead victims of maltreatment to engage in strategies to protect themselves from experiencing further shame and rejection from others.

Although few studies have explored the effectiveness of coping styles among maltreatment victims, the general literature has suggested that coping styles are differentially effective based on the situation (Lazarus & Folkman, 1984). Task-oriented coping styles, which involve direct attempts to address the stressor, appear most effective in reducing anxiety and distress when they are utilized in situations that are within the individual's control and amenable to change. In contrast, emotion-oriented coping styles, which involve attempts to manage one's emotional response, have evidenced the greatest

effectiveness in decreasing anxiety in situations that are uncontrollable. Lastly, avoidance coping styles, such as withdrawal and denial, appear to produce immediate reductions in distress, although research suggests that these methods of coping are associated with greater psychological distress in the long-term. Given this, it is perhaps unsurprising that the literature has found increased rates of psychopathology in victims who endorse avoidance coping styles across the lifespan.

Research has also indicated that there are distinct gender differences in both social anxiety and coping styles (Matud, 2004; Xu et al., 2012). Lifetime prevalence rates of social anxiety are higher among females than among males. Additionally, research suggests that males are more likely to utilize task-oriented coping styles while females are more likely to utilize emotion-oriented coping styles.

Although the link between childhood maltreatment and overall psychological distress is well-documented, relatively little is known about the mechanism through which gender and coping styles influence the relationship between childhood maltreatment and social anxiety. This gap in the literature is particularly concerning given the fact that greater use of ineffective coping styles may lead to increased rates of social anxiety among victims of childhood maltreatment. Therefore, the present study aims to examine gender and coping style as possible moderators of the relationship between childhood maltreatment severity and social anxiety. This study will address the following questions: 1) Do males and females differ significantly in their use of coping styles? 2) Does coping style moderate the relationship between childhood maltreatment severity and social anxiety? 3) Does gender moderate the relationship between childhood maltreatment severity and social anxiety?

## **Review of the Literature**

Childhood maltreatment is a problem that is well-acknowledged in the United States, and it has received increasing public awareness over the past decade (U.S. Department of Health & Human Services, 2016). Although legal definitions of child maltreatment vary across jurisdictions, according to the 2010 Child Abuse and Prevention Act, the federal law defines child abuse and neglect as “any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm” (US Department of Health & Human Services, 2016). The majority of states identify four primary forms of child maltreatment, which include neglect, physical abuse, psychological maltreatment, and sexual abuse. Based on the cases that were investigated in 2014, an estimated 702,000 children were victims of child maltreatment; of these cases, 75% involved neglect, 17% involved physical abuse, and 8.3% involved sexual abuse. For childhood maltreatment involving victims under 18-years-old, prevalence rates have indicated that girls are victimized at a slightly higher rate than boys, although the rate of victimization appears to decrease with age. In the majority of these cases (91.6%), the parents were the perpetrators of the maltreatment, and the National Child Abuse and Neglect Data System (NCANDS) indicated that 1,580 children died of abuse and neglect in the United States in 2014. However, this number is suspected to be significantly higher due to the fact that approximately 50% of child deaths that are initially reported as “unintentional injury deaths” are later determined to be due to maltreatment (Every Child Matters Fund, 2012).

**Outcomes associated with childhood maltreatment.** Research has documented a number of adverse outcomes associated with child maltreatment, including drug or alcohol abuse, health problems, and increased rates of psychopathology (Davidson et al., 2009; Douglas et al., 2010; Negele et al., 2015). For example, Douglas et al. (2010) found that individuals who had experienced sexual or physical abuse during childhood were more likely to be diagnosed with substance dependence later in life and that repeated exposures to childhood maltreatment were associated with increased risk of dependence. Additionally, subsequent research has indicated that emotional neglect and abuse are more highly correlated with alcohol dependency than other forms of childhood maltreatment (Schwandt et al., 2013). Emotional abuse and neglect have also been linked to emotional eating during adulthood (Michopolous et al., 2015).

Regarding cognitive functioning, studies have found that child maltreatment is linked to memory and executive deficits in functioning, such as deficient inhibitory control (Marshall et al., 2016). In comparison to non-victims, victims of childhood maltreatment may also exhibit significantly poorer psychosocial functioning, including lack of self-care, poorer communication skills, and decreased social contact (Davidson et al., 2009). Relatedly, childhood maltreatment has been associated with emotional dysregulation, posttraumatic stress, and more severe depressive symptoms than are observed in the general population (Negele et al., 2015; Wu et al., 2010). Greater exposure to traumatic events during childhood may place individuals at a heightened risk for a number of these adverse outcomes, including posttraumatic stress disorder (PTSD), alcohol dependence, injection drug use, medical problems, and overall poor quality of life (Wu et al., 2010).

**Childhood maltreatment and gender.** Although all victims of childhood maltreatment are susceptible to deleterious outcomes as noted above, research has indicated that males and females may be differentially impacted by adverse childhood events (Cullerton-Sen et al., 2008; Thompson, Kingree, & Desai, 2004). For example, childhood maltreatment has been associated with a higher incidence of physical aggression in males and a higher incidence of relational aggression in females (Cullerton-Sen et al., 2008). Research has also illuminated gender differences in the behavioral trajectories of children who are maltreated during early childhood. Godinet and colleagues (2014) found that male victims were more likely to express anger and act out aggressively, although these behaviors decreased over time. In contrast, for female victims of maltreatment, adverse behaviors appeared to intensify over time, with greater internalizing behaviors emerging during adolescence and early adulthood. Other research has corroborated this finding, suggesting that female victims of physical abuse are more likely than male victims to struggle with internalizing disorders, such as anxiety and depression, throughout their lives (Thompson et al., 2004).

**Childhood maltreatment and social anxiety.** While numerous consequences have been linked to childhood maltreatment, research has consistently demonstrated a link between childhood maltreatment and the development of anxiety (Kuo et al., 2011; Maniglio, 2012; Safren et al., 2002; Shahar, Doren, & Szepeswol, 2015; Simon et al., 2009). For example, Maniglio (2012) conducted a systematic review of meta-analyses on the topic of child sexual abuse and anxiety disorders, which indicated a consistent association between child sexual abuse and generalized anxiety symptoms in both males and females, regardless of the age at which the abuse occurred. Increased rates of

childhood physical and sexual abuse have also been observed in individuals diagnosed with multiple anxiety disorders, such as panic disorder, social phobia, and generalized anxiety disorder (Safren et al., 2002).

Although the etiology of social anxiety is vastly complex, extant literature has revealed that childhood maltreatment is a significant risk factor for the development of social anxiety disorder (Kuo et al., 2011). Occurring in approximately 12% of the United States population, the *Diagnostic and Statistical Manual-5 (DSM-5)* states that social anxiety disorder is characterized by “a persistent fear of social or performance situations in which an individual is at risk for embarrassment, humiliation, or possible scrutiny by unfamiliar persons” (American Psychiatric Association, 2013, p. 202). Maltreatment during childhood may contribute to the development of social anxiety disorder through the internalization of a shame-based schema that is marked by a sense of inadequacy, deep self-criticism, and a high level of self-monitoring (Shahar et al., 2015). Research has indicated that these defensive strategies may result from early experiences of harsh criticism and rejection during childhood, leading victims of maltreatment to use strategies to protect themselves from experiencing further shame, humiliation, and rejection from others. Additionally, in comparison to non-victims, victims of childhood maltreatment exhibit greater symptom severity in social anxiety disorder as well as poorer functioning, resilience, and overall quality of life (Kuo et al., 2011; Simon et al., 2009).

**Maltreatment subtypes and social anxiety.** When considering the relationship between maltreatment subtypes and social anxiety, research has found that victims are differentially affected based on the type of childhood maltreatment they have experienced (Bruce et al., 2012). Bruce and colleagues (2012) found that higher scores on the

*Childhood Trauma Questionnaire – Short Form (CTQ-SF)* emotional abuse, emotional neglect, and physical abuse subscales were correlated with greater severity in social anxiety symptoms and a significantly lower quality of life. This overlaps with previous findings, which have suggested that emotional abuse and neglect, but not other types of childhood maltreatment, predict the negative cognitions that are implicated in the development and maintenance of anxiety disorders (van Harmelen et al., 2010). However, although there appears to be a link between maltreatment subtypes and social anxiety, the studies investigating this association are few in number, and additional research is warranted to further substantiate this finding.

**Gender and social anxiety.** In addition to differences observed among maltreatment subtypes, research has also indicated that social anxiety differs by gender (McLean et al., 2011; Xu et al., 2012). In the general population, higher rates of social anxiety are observed in females than in males (1.5:1), and this difference appears to be most pronounced during adolescence and early adulthood (APA, 2013). Research suggests that males and females also differ in their presentation of social anxiety across the lifespan (Xu et al., 2012). Xu and colleagues (2012) found that women were more likely to endorse situational panic attacks related to social fears and were also more likely to receive prescription medication for their symptoms. Conversely, men with social anxiety were more likely to rely on illicit drugs and alcohol to manage their symptoms of anxiety, and they were more likely than women to struggle with substance abuse and dependence throughout their lives. Additional research has also suggested that men with social anxiety are more likely to be diagnosed with comorbid externalizing disorders (e.g., conduct disorder, antisocial personality disorder) while women with social anxiety



are more likely to be diagnosed with comorbid internalizing disorders (e.g., mood and other anxiety disorders).

**Coping styles.** Although research is scant, some studies have suggested that coping styles may influence the relationship between maltreatment and later psychological difficulties (Christiansen, Hansen, & Elklit, 2014; Littleton et al., 2007; Sesar, Simic, & Barisic, 2010). Coping style refers both to how an individual appraises and interprets events as well as the strategies that he or she uses to deal with stressful situations (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) identified two primary styles of coping: task-oriented and emotion-oriented. Task-oriented coping is considered an active form of coping, characterized by problem-solving and seeking out specific strategies in order to manage or resolve the stressor. In contrast, emotion-oriented coping focuses on managing the emotional distress associated with the stressor, which may include positive reframing, acceptance, and seeking emotional support from others. Other researchers have also identified a third primary coping style, which is marked by avoidance (Roth & Cohen, 1986). Avoidance coping is often considered a passive form of coping and is characterized by denial, withdrawal, self-distraction, and behavioral disengagement.

Presently, there is no well-defined criteria for identifying which coping styles are adaptive and which coping styles are maladaptive, and researchers have differing beliefs about which coping style is most effective (Littleton et al., 2007; Sesar et al., 2010). However, some studies have indicated that task-oriented coping styles may be the most efficacious in the long-term because these strategies involve direct attempts to address and manage the stressor (Kariv & Heiman, 2005). Other research has found that

utilization of passive coping styles, such as avoidance, may play a role in future psychopathology (Littleton et al., 2007; Roohafza et al., 2014). For example, a study by Littleton et al. (2007) revealed that avoidant coping strategies were associated with a significantly higher level of psychological distress following traumatic events when compared to other coping strategies. In corroboration with this finding, subsequent research has indicated a positive relationship between avoidant coping styles and elevated symptoms in internalizing disorders (Roohafza et al., 2014).

**Gender and coping styles.** Existing literature has suggested that both the use and the effectiveness of coping styles often depends on numerous individual factors, including gender differences (Christiansen et al., 2014; Kelly et al., 2008). Differences in the way men and women respond to stress may help explain gender differences in coping strategies. For example, Matud (2004) found that women were more likely than men to rate life events as negative and less controllable, even when there was no significant difference in the stressful events experienced, suggesting that women appraise events as more stressful and threatening than men do. Other research has indicated that women are more likely to use emotion-oriented coping styles while men are more likely to use task-oriented coping styles, although these differences appear most significant during adulthood (Eschenbeck, Kohlmann, & Lohaus, 2007; Kelly et al., 2008; Tamres, Janicki, & Helgeson, 2002). Differential coping styles between men and women may be attributable to several factors including biological differences and traditional socialization patterns that encourage emotionally-oriented behavior for women and goal-oriented behavior for men. Of concern, Kelly and colleagues (2008) suggested that the differential use of coping styles between genders may contribute to the development and

maintenance of anxiety disorders and internalizing problems for women. Across all contexts, women who utilize emotion-oriented coping strategies endorse more somatic symptoms and psychological distress in comparison to males, suggesting that there is a link between gender, coping style, and maladaptive outcomes (Kelly et al., 2008; Matud, 2004).

**Social anxiety and coping styles.** In their work, Lazarus and Folkman (1987) indicated that coping styles play a significant role in later adaptational outcomes, including subjective well-being and social functioning. Over the past several decades, research has explored the role of coping styles in the onset, management, and perpetuation of anxiety (Cooper et al., 2008; Lee et al., 2016; Mahmoud et al., 2012). When considering the relationship between coping styles and anxiety, some studies have indicated that the effectiveness of coping styles is related to the nature of the stressful situation, and that ineffective use of coping styles can lead to increased anxiety (Whatley, Foreman, & Richards, 1998). Task-oriented coping may be most effective in situations that are controllable, while emotion-oriented coping strategies may be most effective in situations that are difficult to change. However, to date, little is known about the influence that coping styles may have on the relationship between childhood maltreatment and social anxiety.

**Childhood maltreatment and coping styles.** Although limited, research has begun to examine the relationship between childhood maltreatment and coping styles (Christiansen et al., 2014; Fortier et al., 2009; Sesar et al., 2010). Task-oriented coping styles have consistently been identified as a protective factor for trauma exposure. In contrast, emotion-oriented and avoidance coping styles appear to be risk factors and are

often associated with increased symptoms of posttraumatic stress (Christiansen et al., 2014; Sesar et al., 2010). When examining coping styles in individuals who had been exposed to multiple types of abuse during childhood, Sesar et al. (2010) found that victims of childhood maltreatment most frequently used task-oriented coping strategies, followed by avoidance coping strategies and emotion-oriented coping strategies, respectively. Although adaptive in the short term, avoidance coping strategies can perpetuate psychological distress and lead to an increase in trauma symptoms over time. Other studies have corroborated and expanded upon these findings, revealing that avoidance and emotion-oriented coping strategies were positively related to severity of posttraumatic stress symptoms in an adolescent trauma sample (Christiansen et al., 2014). Additionally, for individuals with histories of multiple types of abuse during childhood, emotion-oriented coping styles have been associated with greater problems in psychological adaptation during adulthood (Sesar et al., 2010). However, to date, very few studies have examined the relationship between overall childhood maltreatment and coping styles among college students.

**Maltreatment subtypes and coping styles.** At present, little is known about the relationship between maltreatment subtypes and coping styles. Some research has demonstrated a positive relationship between emotion-oriented coping and neglect, suggesting that victims of neglect may be likely to cope by managing their emotional responses to stressful situations (Sesar et al., 2010). However, of concern, emotion-oriented coping has also been related to poorer psychological outcomes for victims of neglect, such as increased rates of depression and anxiety and greater endorsement of somatic complaints. Literature has also suggested that experiences with both sexual and

physical abuse may lead individuals to utilize avoidance coping strategies (e.g., isolation, denial, emotional disengagement) in order to decrease the level of victimization and alleviate the consequences of the abuse (Fortier et al., 2009). However, although this strategy may be useful for coping with abuse in the short-term, research has indicated that it is associated with poorer emotional functioning and greater psychological distress over the lifespan. Other research has demonstrated that exposure to multiple types of abuse is associated with a heightened risk for avoidance behaviors (Wu et al., 2010). However, despite the differences that have been observed, research has indicated that task-oriented coping is associated with better psychological adaptation in comparison to both emotion-oriented and avoidance coping strategies, regardless of the type of maltreatment. Interestingly, this seems to contradict findings in the general coping style literature, which have suggested that the efficacy of one's coping style is dependent upon the nature of the stressful situation (Littleton et al., 2007; Christiansen et al., 2014).

**The present study.** Although the association between childhood maltreatment and social anxiety is well-established, few studies have examined the moderating effects of gender and coping style on this relationship. Therefore, the present study aims to test the following hypotheses in regards to childhood maltreatment, gender, coping style, and social anxiety: 1) Coping styles will differ by gender, with females scoring higher on emotion-oriented coping styles, and males scoring higher on task-oriented coping styles; 2) Coping style will moderate the relationship between childhood maltreatment severity and social anxiety; 3) Gender will moderate the relationship between childhood maltreatment severity and social anxiety.

## Method

### Participants

Participants ( $n = 213$ ) were undergraduate students recruited from introductory psychology courses at a medium-sized public university in the Northeast during the 2005-2006 academic year. Participants in this study completed a packet of self-report questionnaires that took approximately 30 minutes to complete and included questions about demographics, development and lifestyle, childhood trauma, mood and anxiety disorders, and coping style. They were provided with extra credit in their course for their participation. Of the participants, 62.9% were women. Regarding age ( $M_{age} = 19.36$ ), 77.4% were 18-19 years old, 17.5% were 20-22 years old, 4.3% were 23 years or older, and 0.9% did not report their age. Regarding race, 91.1% of the sample self-identified as White, 1.4% identified as Black, 4.2% identified as Asian, 0.9% identified as other races, and 2.3% did not report their race. In terms of ethnicity, 3.3% identified as Hispanic.

Table 1. *Demographic Information of Overall Sample*

<b>Variable</b>	<b>Mean (SD)</b>
<b>Age</b>	19.36 (3.13)
	<i>N (%)</i>
<b>Gender</b>	
Male	77 (36.20%)
Female	134 (62.90%)
Did not report	2 (0.90%)
<b>Race</b>	
White	194 (91.10%)
Black	3 (1.40%)
Asian	9 (4.20%)
Other	2 (0.90%)
Did not report	5 (2.30%)
<b>Ethnicity</b>	
Hispanic	7 (3.30%)
Non-Hispanic	133 (62.40%)
Did not report	73 (34.30%)

Note.  $N = 213$

## Measures

**Childhood Trauma Questionnaire (CTQ).** The CTQ (Bernstein & Fink, 1998) is a 28-item retrospective self-report measure that includes five scales that assess various types of childhood maltreatment, including emotional, sexual, and physical abuse, as well as emotional and physical neglect. Each of the five scales includes five items that are rated on a 5-point Likert-type scale with values ranging from 1 (“Never True”) to 5 (“Very Often True”). Total possible scores range from 5 to 25 on each scale and 25 to 125 for the composite of the five scales. The CTQ also includes a minimization/denial scale, which contains three items and is used to detect the underreporting of maltreatment experiences. The CTQ is one of the most commonly used measures for examining child abuse and neglect in both adolescents and adults, and it has been well-validated across numerous diverse samples (Bernstein & Fink, 1998; Forde et al., 2012; Karos et al., 2014). Research has consistently demonstrated that the CTQ has both high internal consistency and test-retest reliability (Bernstein & Fink, 1998). For the current study, childhood maltreatment severity was coded on a continuous scale representing severity of maltreatment history, which was measured using a composite score of the five scales (emotional, sexual, and physical abuse; emotional and physical neglect). In the present sample, CTQ composite scores ranged from 25 to 106 ( $M = 35.03$ ,  $SD = 13.65$ ; See Table 2).

**Social Phobia and Anxiety Inventory (SPAI).** The SPAI (Turner, Beidel, & Dancu, 1996) is a 45-item instrument that assesses somatic symptoms, cognitions, and behaviors across a wide range of situations associated with social anxiety. The SPAI is intended for individuals who are 14 years or older and includes two subscales which

examine social phobia and agoraphobia. Respondents are asked to indicate the frequency with which they experience each item, and items on the SPAI are rated on a 7-point Likert-type scale with values ranging from 0 (“Never”) to 6 (“Always”). Confirmatory factor analysis has confirmed the two-factor model among diverse samples, including college students, males, and females, and research has provided support for the internal and external validity of the SPAI (Olivares et al., 2009; Rodebaugh et al., 2000; Turner et al., 1996). The current study used only the social phobia subscale of the SPAI, which includes 32 items and has demonstrated a high degree of internal consistency ( $\alpha = .96$ ) across populations (Turner et al., 1996). Scores on the social phobia subscale may range from 0 to 192. For the present analyses, social anxiety was scored continuously using the social phobia subscale score. Scores in the present sample ranged from 0 to 164 ( $M = 69.72$ ,  $SD = 33.98$ ; see Table 2).

**Coping Inventory for Stressful Situations (CISS).** The CISS (Endler & Parker, 1999) is a 48-item instrument that includes three scales that assess the use of three coping styles: Task-Oriented, Emotion-Oriented, and Avoidance. The Avoidance scale is further divided into two subscales assessing social diversion and distraction. Each of the three primary scales contains 16 questions that are rated on a 5-point Likert scale, with values ranging from 1 (“Not at All”) to 5 (“Very Much”). Total scores on each of the three scales may range from 16 to 80. Research on the CISS has provided strong support for its psychometric properties, and the measure has been validated across a diverse sample of populations, including undergraduates, adults, and psychiatric patients (Endler & Parker, 1999; Hurt et al., 2011). Principal components analysis has confirmed the three-factor structure in these populations with factor loadings ranging from .35 to .74 in an



undergraduate sample (Endler & Parker, 1999). The CISS has also demonstrated high internal consistency for the three primary scales, and test-retest reliabilities have indicated moderate to high stability over time. For analyses in the current study, each coping style (task-oriented, emotion-oriented, avoidance) was scored continuously using each of the CISS primary scale scores. In the present sample, task-oriented scores ranged from 16 to 80 ( $M = 48.83$ ,  $SD = 11.81$ ), emotion-oriented scores ranged from 16 to 74 ( $M = 44.87$ ,  $SD = 11.40$ ), and avoidance scores ranged from 16 to 74 ( $M = 44.37$ ,  $SD = 11.75$ ). See Table 2.

Table 2. *Ranges, Means, and Standard Deviations for Primary Scales in Overall Sample*

<b>Variable</b>	<b>Possible Range</b>	<b>Sample Range</b>	<b>Mean</b>	<b>SD</b>
Childhood Maltreatment Severity	25-125	25-106	35.03	13.65
Task-Oriented Coping	16-80	16-80	48.83	11.81
Emotion-Oriented Coping	16-80	16-74	44.87	11.40
Avoidance Coping	16-80	16-74	44.37	11.75
Social Anxiety	0-192	0-164	69.72	33.98

## Results

### Preliminary Analyses

Two *a priori* power analyses were conducted in *G\*Power 3.1*. For both power analyses, the recommended power level of .80 was utilized as an input parameter (Cohen, 1988). For the MANOVA (Hypothesis 1), the power analysis indicated that a sample size of 180 participants would be needed for a moderate effect size,  $f^2 = .0625$ ,  $\alpha = .05$ ,  $\beta = .80$ . An additional power analysis was conducted for the linear regressions fixed model,  $R^2$ , deviation from zero (Hypotheses 2 and 3). The results indicated that a sample size of 77 participants would be adequate for a moderate effect size,  $f = .15$ ,  $\alpha = .05$ ,  $\beta = .80$ . Therefore, based on the power analyses, it was determined that the present study was adequately powered to detect effects.

Basic assumptions of the general linear model were assessed to confirm that the data met assumptions of normality, linearity, homoscedasticity, and homogeneity of regressions. Skewness and kurtosis values for childhood maltreatment severity, task-oriented coping, emotion-oriented coping, avoidance coping, social anxiety, and gender were all within normal limits. Evaluations of scatterplots for the primary variables of interest indicated that the assumptions of homoscedasticity and linearity were also met. An examination of the correlations between variables did not indicate multicollinearity between any of the variables of interest (see Table 3).

Significant correlations were observed among the primary variables of interest. Childhood maltreatment severity (IV) was positively correlated with social anxiety (DV;  $p < .05$ ). Maltreatment severity was also negatively correlated with gender ( $p < .05$ ), suggesting that males were more likely to report greater maltreatment severity in

comparison to females. Gender was also positively correlated with emotion-oriented coping ( $p < .05$ ), indicating that females were more likely to endorse greater use of this coping style than males. Social anxiety was positively correlated with emotion-oriented coping ( $p < .01$ ) but was not significantly correlated with the other two coping styles. However, positive correlations were observed between avoidance coping and task-oriented coping ( $p < .01$ ), as well as between avoidance coping and emotion-oriented coping ( $p < .01$ ).

Table 3. *Correlation Matrix of Primary Variables*

Variable	1	2	3	4	5	6
1. Childhood Maltreatment Severity	-					
2. Gender	-.167*	-				
3. Task-Oriented Coping	-.066	-.016	-			
4. Emotion-Oriented Coping	.091	.147*	.115	-		
5. Avoidance Coping	-.040	.025	.518**	.318**	-	
6. Social Anxiety	.143*	.101	-.054	.365**	.044	-

Note. N = 213, \* $p < .05$ , \*\* $p < .01$

The data were also examined for missing data and outliers. Less than 12.5% of the data was missing from each of the primary variables included in this study. Therefore, listwise deletion was used in cases with missing data for each analysis. Six outliers were detected for the variable measuring childhood maltreatment severity (CTQ Total Score) based on z scores. Analyses were conducted both with and without the outliers in order to determine whether they significantly influenced the results in this study. However, since there were no significant differences in the results when the analyses were conducted with and without the outliers, the results reported below are based on the original dataset that includes the outliers.

Internal consistency analyses were conducted to assess the psychometric properties of the scales used in the present study. The childhood maltreatment severity variable yielded strong internal consistency ( $\alpha = .94$ ). Coefficient alphas for the three coping styles ranged from .89 to .93 across the overall sample. When observed by gender, coefficient alphas for the three coping scales ranged from .89 to .96. High internal consistency was also observed for the SPAI social phobia subscale ( $\alpha = .99$ ). Internal consistencies for all scales used in the present study are displayed in Table 4.

Table 4. *Internal Consistencies of Scales*

Variable	Overall Sample	Male	Female
Childhood Maltreatment Severity	.94	.96	.92
Task-Oriented Coping	.93	.93	.93
Emotion-Oriented Coping	.90	.89	.90
Avoidance Coping	.89	.86	.91
Social Anxiety	.99	.99	.98

**Hypothesis 1:** Coping style will differ by gender, with females scoring higher on emotion-oriented coping styles and males scoring higher on task-oriented coping styles.

A multivariate analysis of variance (MANOVA) was conducted to assess whether each of the three coping styles is related to gender. The independent variable was gender and the dependent variables were task-oriented, emotion-oriented, and avoidance coping styles. The results of the MANOVA did not yield significant results,  $F(3, 171) = 1.473$ , Wilks' Lambda = .975,  $p = .224$ , partial  $\eta^2 = .025$ . Because the main effect was not significant, follow-up tests were not conducted.

Table 5. Means and Standard Deviations for Coping Style by Gender

Variable	Males (n = 59)		Females (n = 116)	
	Mean	SD	Mean	SD
Task-Oriented Coping	49.39	11.70	48.73	12.14
Emotion-Oriented Coping	42.27	11.11	45.94	11.70
Avoidance Coping	43.75	10.26	45.09	12.01

**Hypothesis 2:** Coping style will moderate the relationship between childhood maltreatment severity and social anxiety.

A series of three hierarchical multiple regression analyses were conducted to examine the moderating effects of each coping style on the relationship between childhood maltreatment severity and social anxiety. For all of the models, the independent variable (IV) was childhood maltreatment severity and the dependent variable (DV) was social anxiety. The moderator variables (M) that were tested independently in the three models included task-oriented coping, emotion-oriented coping, and avoidance coping. Additional information on the path models for all moderator analyses can be found in Appendix A.

**Task-oriented coping.** The first model tested the moderating effects of task-oriented coping on the relationship between childhood maltreatment severity and social anxiety. In Step 1, childhood maltreatment severity (IV) and task-oriented coping (M1) were regressed on social anxiety (DV). Step 1 of the hierarchical multiple regression did not produce statistically significant results, indicating that childhood maltreatment severity and task-oriented coping accounted for approximately 1.7% of the variance in social anxiety ( $R = .131$ ,  $R^2 = .017$ ,  $F(2, 171) = 1.487$ ,  $p = .229$ ).

In Step 2, the interaction term between childhood maltreatment severity and task-oriented coping was added to the regression model. Results did not indicate a statistically different change in  $R^2$ , and the interaction term was not significant, indicating that moderation is not occurring. A summary of the hierarchical multiple regression results with task-oriented coping as a moderator is displayed in Table 6.

Table 6. *Summary of Hierarchical Multiple Regression with Task-Oriented Coping as a Moderator*

Variable	Step 1					Step 2				
	B	SE B	$\beta$	t	p	B	SE B	$\beta$	t	p
Childhood Maltreatment Severity	0.335	0.202	0.126	1.661	.099	0.977	1.040	0.368	0.939	.349
Task-Oriented Coping	-0.072	0.219	-0.025	-0.326	.745	0.380	0.752	0.132	0.506	.614
Childhood Maltreatment Severity*Task-Oriented						-0.014	0.022	-0.281	-0.629	.530
$R^2$	.017					.019				
$\Delta R^2$	---					.002				
$\Delta p$	.229					.530				

Note. DV = Social Anxiety

**Emotion-oriented coping.** The second model tested the moderating effects of emotion-oriented coping on the relationship between childhood maltreatment severity and social anxiety. In Step 1, childhood maltreatment severity (IV) and emotion-oriented coping (M2) were regressed on social anxiety (DV). Step 1 of the hierarchical multiple regression yielded statistically significant results and indicated that childhood maltreatment severity and emotion-oriented coping accounted for approximately 14.2% of the variance in social anxiety ( $R = .377$ ,  $R^2 = .142$ ,  $F(2, 167) = 13.796$ ,  $p < .001$ ). Childhood maltreatment severity (IV) was not a significant predictor of social anxiety, but the moderator, emotion-oriented coping was (see Table 7).

In Step 2, the interaction term between childhood maltreatment severity and emotion-oriented coping was added to the regression model. Results indicated that the

interaction between childhood maltreatment severity and emotion-oriented coping was not significant and did not significantly change  $R^2$ , indicating that moderation is not occurring. A summary of the hierarchical multiple regression results with emotion-oriented coping as a moderator is displayed in Table 7.

Table 7. Summary of Hierarchical Multiple Regression with Emotion-Oriented Coping as a Moderator

Variable	Step 1					Step 2				
	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Childhood Maltreatment Severity	0.310	0.192	0.116	1.617	.108	0.493	0.998	0.185	0.494	.622
Emotion-Oriented Coping	1.013	0.209	0.349	4.851	<.001	1.144	0.735	0.394	1.557	.121
Childhood Maltreatment Severity*Emotion-Oriented Coping						-0.004	0.022	-0.086	-0.187	.852
$R^2$	.142					.142				
$\Delta R^2$	---					<.001				
$\Delta p$	<.001					.852				

Note. DV = Social Anxiety

**Avoidance coping.** The third model tested the moderating effects of avoidance coping on the relationship between childhood maltreatment severity and social anxiety. In Step 1, childhood maltreatment severity (IV) and avoidance coping (M3) were regressed on social anxiety (DV). Step 1 of the hierarchical multiple regression did not produce statistically significant results and indicated that childhood maltreatment severity and avoidance coping accounted for approximately 2.1% of the variance in social anxiety ( $R = .147$ ,  $R^2 = .021$ ,  $F(2, 172) = 1.889$ ,  $p = .154$ ).

In Step 2, the interaction term between childhood maltreatment severity and avoidance coping was added to the regression model. Results did not indicate a statistically significant different change in  $R^2$ , and the interaction term was not significant, indicating that moderation is not occurring. A summary of the hierarchical multiple regression results with avoidance coping as a moderator is displayed in Table 8.

Table 8. Summary of Hierarchical Multiple Regression with Avoidance Coping as a Moderator

Variable	Step 1					Step 2				
	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Childhood Maltreatment Severity	0.366	0.202	0.137	1.814	.071	0.017	0.918	0.006	0.018	.986
Avoidance Coping	0.175	0.222	0.060	0.789	.431	-0.099	0.736	-0.034	-0.134	.894
Childhood Maltreatment Severity* Avoidance Coping						0.008	0.021	0.159	0.390	.697
<i>R</i> <sup>2</sup>	.021					.022				
$\Delta R^2$	---					.001				
$\Delta p$	.154					.697				

Note. DV = Social Anxiety

**Hypothesis 3:** Gender will moderate the relationship between childhood maltreatment severity and social anxiety.

Regression analyses were conducted to examine the moderating effects of gender on the relationship between childhood maltreatment severity and social anxiety. In Step 1, childhood maltreatment severity (IV) and gender (M) were regressed on social anxiety (DV). Step 1 of the hierarchical multiple regression yielded statistically significant results and indicated that childhood maltreatment severity and gender accounted for approximately 3.9% of the variance in social anxiety ( $R = .197$ ,  $R^2 = .039$ ,  $F(2, 181) = 3.672$ ,  $p = .027$ ). Childhood maltreatment severity (IV) was a significant predictor, but the moderator, gender, was not significant (see Table 9).

In Step 2, the interaction term between childhood maltreatment severity and gender was added to the regression model. Results indicated that the interaction between childhood maltreatment severity and gender was not significant and did not significantly change  $R^2$ , indicating that moderation is not occurring. A summary of the hierarchical multiple regression results with gender as a moderator is displayed in Table 9.



Table 9. Summary of Hierarchical Multiple Regression with Gender as a Moderator

Variable	Step 1					Step 2				
	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Childhood Maltreatment Severity	0.425	0.193	0.162	2.208	.028	0.503	0.266	0.192	1.889	.061
Gender	9.631	5.217	0.136	1.846	.067	15.343	14.490	0.216	1.059	.291
Childhood Maltreatment Severity*Gender						-0.163	0.387	-0.088	-0.423	.673
<i>R</i> <sup>2</sup>	.039					.040				
$\Delta R^2$	---					.001				
$\Delta p$	.027					.673				

Note. DV = Social Anxiety

## Discussion

The present study is among the first to examine the relationship between childhood maltreatment severity, coping styles, gender, and social anxiety. Based on previous research, it was anticipated that coping styles would differ by gender, with females scoring higher on emotion-oriented coping styles and males scoring higher on task-oriented coping styles (Matud, 2004). Additionally, it was expected that each of the three coping styles (i.e., task-oriented, emotion-oriented, avoidance) would differentially moderate the relationship between childhood maltreatment severity and social anxiety. Given that previous research has identified gender differences in social anxiety, with significantly higher prevalence rates being observed in females, it was hypothesized that gender would also moderate the relationship between childhood maltreatment severity and social anxiety (Xu et al., 2012).

**Gender differences in coping styles.** Although some research has explored the relationship between gender and coping styles, the existing literature on this topic is quite limited in scope (Kelly et al., 2008; Matud, 2004). Additionally, while many of the existing studies have focused on task-oriented coping and emotion-oriented coping, few – if any – studies have included avoidance coping when examining gender differences in coping styles. Exploring gender differences in coping styles is critical to developing an understanding of whether there is a tendency for males and females cope differently. Specifically, when considered within the context of childhood maltreatment and subsequent psychopathology, uncovering gender differences in coping styles may illuminate more about how individuals respond differently to stress and may be useful in identifying those individuals who are at a greater risk for negative outcomes.

Despite previous findings, the present study found no significant gender differences in coping styles. That is, males and females did not differ significantly in their endorsed use of task-oriented, emotion-oriented, and avoidance coping styles. Although these results are inconsistent with existing research, there are several possible explanations for why no differences were observed. First, the present study included an unequal number males and females, with females outnumbering males at a ratio of almost 2:1. Although it is unknown whether these unequal sample sizes might have influenced the outcome, it is important to note.

Second, although some literature has observed gender differences in coping styles, these findings appear to be mixed and highly correlated with the mean age of the participants (Aldwin, 1991; Kelly et al., 2008; Folkman, Lazarus, Pimley, & Novacek, 1987; Matud, 2004). The majority of existing research that has identified gender differences in coping styles has utilized samples where the mean age is significantly higher (e.g., 26 years; 34 years) than the mean age of participants in the present study ( $M = 19.36$  years) study. This age difference is notable due to the fact that prior studies have supported a developmental interpretation of coping, which suggests that there are inherent, stage-related changes in coping that occur across the lifespan (Aldwin, 1991; Folkman et al., 1987). Specifically, this research has also indicated that age may play a significant role in the coping process, influencing appraisals, attributions, and coping styles. Given this literature, it may be that age is a stronger predictor of coping style than gender and that gender differences in coping become more prominent over the lifespan, which may assist in explaining the findings of the present study. Future research should

explore the association between age, gender, and coping styles in order to generate a greater understanding of the relationship between the three variables.

**Moderating effects of coping styles.** Results of the present study did not support the hypothesis that coping style (i.e., task-oriented, emotion-oriented, avoidance) would moderate the relationship between childhood maltreatment severity and social anxiety. Although the relationship between childhood maltreatment severity and social anxiety was significant in the preliminary analyses (Cronbach's alpha,  $p < .05$ ), this relationship was not significant in any of the three hierarchical multiple regression analyses. Additionally, task-oriented coping and avoidance coping were not significantly predictive of social anxiety, and no moderation effects were observed when the interaction terms were created. Only emotion-oriented coping appeared to be significantly predictive of social anxiety, although, again, no moderation effects were observed when the interaction term was added. Overall, these results suggest that none of the three coping styles moderate the relationship between childhood maltreatment severity and social anxiety.

First, the current results found that childhood maltreatment severity was not significantly predictive of social anxiety in the regression analyses. Although this conflicts with prior research, there are several potential reasons for these contradictory findings. When considering the results of the present study, it must first be noted that the sample utilized was not inherently a maltreatment sample. This study was a secondary data analysis which examined data that was originally collected for use in another study via convenience sampling. Based on the guidelines for maltreatment classification identified by Bernstein and Fink (1998), almost half ( $n = 103, 48.4\%$ ) of the present sample indicated that they had no history of maltreatment (CTQ scores  $< 30$ ). An

additional 25.4% of the sample endorsed only low-to-moderate maltreatment experiences during childhood (CTQ scores  $\geq 30$  and  $< 40$ ), 12.7% endorsed moderate-to-severe experiences (CTQ scores  $\geq 40$  and  $< 65$ ), and 6.1% endorsed severe-to-extreme maltreatment (CTQ scores  $\geq 65$ ). Therefore, the maltreatment experiences endorsed by participants were notably lower than what is typically observed in existing maltreatment studies in the literature, which most often use maltreatment-only samples or samples that compare maltreated and non-maltreated individuals (Arata, Langhinrichsen-Rohling, Bowers, & O'Brien, 2007; Bruce et al., 2012; Davidson et al., 2009). Additionally, the present study utilized a continuous score for childhood maltreatment severity and did not exclude participants who endorsed no maltreatment history (CTQ scores  $< 30$ ). Given the fact that nearly half of the sample fell into this category, it is possible that a differential outcome may have occurred if non-maltreated participants were removed and the study focused exclusively on individuals with maltreatment experiences.

Secondly, the present study did not account for possible promotive and protective factors that may have buffered the initial relationship between childhood maltreatment severity and social anxiety. Prior research has indicated that the long-term negative sequelae associated with childhood maltreatment severity may be buffered by social support from family and friends (Folger & Wright, 2013). Specifically, the literature indicates that social support serves as a promotive factor, and has been associated with a reduction in symptoms of internalizing disorders (e.g., depression and anxiety), regardless of the severity of maltreatment. Other protective factors that have been associated with resilience among maltreatment victims include social competence, involvement in positive activities, a positive school environment, and economic

opportunities (Brodowski & Fischman, 2014; Schutlz, Tharp-Taylor, Haviland, & Jaycox, 2009). Therefore, future research may yield more impactful results by taking these factors into consideration.

In addition to protective factors, the absence of a relationship between maltreatment severity and social anxiety may be explained by the nuanced differences between maltreatment subtypes. Although research on the topic is limited in scope, previous research has revealed that early experiences of rejection and harsh criticism during childhood may place maltreatment victims at a greater risk for engaging in the defensive strategies associated (e.g., self-monitoring, social isolation) with social anxiety (Bruce et al., 2012; Shahar et al., 2015; van Harmelen et al., 2010). In accordance with experiences of rejection and criticism, some research has found that emotional abuse and neglect – but not other subtypes of childhood maltreatment – are correlated with greater social anxiety symptoms among maltreatment victims in comparison to the general population (Bruce, 2012; van Harmelen et al., 2010). Given the complexity of the relationship between childhood maltreatment severity and long-term outcomes, a more rigorous examination of the distinction between maltreatment subtypes may be beneficial for generating a more sophisticated understanding of social anxiety in these individuals.

The present findings also do not offer support for the moderating effects of coping style on the relationship between childhood maltreatment severity and social anxiety. There are several possible explanations for these results. Prior research has established a clear association between childhood maltreatment and maladaptive outcomes (Bruce et al., 2012; van Harmelen et al., 2010); however, the potential impact of coping style on this relationship is absent from the literature. In general, existing coping style research is

quite limited in scope, and literature about the potential long-term outcomes of coping styles is conflicting and seemingly inconclusive (Kariv & Heiman, 2005; Littleton et al., 2007; Sesar et al., 2010). While some studies suggest that task-oriented coping styles are most efficacious because they involve direct attempts to address and manage the stressor (Kariv & Heiman, 2005), others have suggested that the efficacy of a particular coping style often depends on numerous factors, including personality traits, social supports, and gender (Christiansen et al., 2014). Additionally, although the present study utilized the Coping Inventory for Stressful Situations (CISS), which assesses the use of three coping styles (i.e., task-oriented, emotion-oriented, avoidance), at present, there is no well-defined classification for coping styles in the literature. While some researchers utilize Lazarus and Folkman's (1984) binary approach to coping styles (i.e., task-oriented and emotion-oriented), other researchers also include Roth & Cohen's (1986) avoidance coping style. The lack of a uniform classification for coping styles in the literature is, in itself, problematic and may lead to differences in the way these variables are defined and measured across studies, thus generating differential outcomes.

In addition to mixed classifications regarding coping styles, prior research has indicated that the effective use of coping styles is often situation-dependent, suggesting that there is a fluidity to coping styles that may differ with circumstances (Whaley et al., 1998). However, due to the measures that were used in the present study, it was not possible to assess which coping style participants may have utilized during their maltreatment experiences. Instead, the three primary coping styles were assessed by examining the extent to which they were currently endorsed by each participant. Identifying the coping styles that participants used most frequently during childhood may

have offered more fruitful results, leading to a greater understanding of the relationship between childhood maltreatment severity, coping style, and social anxiety. It is possible that using a retrospective measure may have provided additional knowledge about how coping styles may impact social anxiety in maltreatment victims.

**Moderating effects of gender.** Results from the present study also revealed that gender did not moderate the relationship between childhood maltreatment severity and social anxiety. Although childhood maltreatment severity was significantly related to social anxiety, no moderation effects were observed when the interaction term was entered into the regression model. Therefore, gender did not significantly influence the relationship between childhood maltreatment severity and social anxiety.

The present results stand in contrast to previous research, which has suggested that males and females may be differentially impacted by childhood maltreatment experiences (Cullerton-Sen, et al., 2008; Oshima, Jonson-Reid, & Seay, 2014; Thompson et al., 2004). However, the majority of existing research on this topic has focused on childhood maltreatment subtypes (e.g., physical abuse, sexual abuse, emotional neglect) rather than overall childhood maltreatment severity. Few studies have explored the impact of gender on the long-term mental health consequences of overall maltreatment experiences, and the results of the existing studies on this topic appear to be mixed (Collin-Vezida & Garrido, 2017; Kristman-Valente & Wells, 2013; Oshima et al., 2014). Additionally, it may be that other factors which were not accounted for in the present study, such as education level or socioeconomic status (SES), more fully explain the relationship between childhood maltreatment severity and social anxiety. Previous research has indicated that childhood maltreatment outcomes are highly influenced by



stressors (e.g., family conflict, external constraints) and family SES (Herrenkohl & Herrenkohl, 2007). Therefore, considering how SES and gender jointly interact may provide more fruitful information about the link between childhood maltreatment and social anxiety. Ultimately, continued research on this topic is needed to further elucidate the role of gender in the relationship between childhood maltreatment severity and social anxiety.

### **Limitations**

**Methodological variables.** When considering the results of this study, there are several notable limitations that need to be addressed. First, childhood maltreatment severity was assessed using the Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998), which is a retrospective self-report measure that requires participants to recall memories from childhood. Although this measure has been validated across a wide range of populations, including college students, and has demonstrated a high degree of internal consistency, it is possible that participants' memories of their childhood were biased or simply inaccurate. The nature of the questionnaire packet, which included measures that targeted anxiety, depression, and childhood maltreatment, may also have primed participants to respond to the questions in a particular manner. Administering the CTQ in a separate session may have decreased the priming effect, minimizing the likelihood that participants would respond in a certain way.

Second, although the CTQ includes five scales that assess various types of maltreatment (i.e., emotional, sexual, and physical abuse; emotional and physical neglect), the present study measured childhood maltreatment severity by using a composite score of the five scales. Due to the fact that research has implicated different

outcomes are associated with different types of childhood maltreatment (e.g., abuse versus neglect), using a composite score may have hindered the detection of differences in these results. Thus, it may be beneficial for future research to differentiate among the various types of abuse and neglect when considering the relationship between coping styles and outcomes such as social anxiety.

Third, the social phobia subscale of the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, & Dancu, 1996) was the only measure used to assess social anxiety in the present study. Although the social phobia subscale contains 32 items and has demonstrated a high degree of internal consistency across populations as well as in this study, it is possible that it did not fully capture the social anxiety experiences of the participants. Additionally, because the SPAI was one of the final measures in the questionnaire packet, participants may have experienced testing fatigue, limiting their ability to fully attend to the items when completing the measure.

**Sampling and data collection.** The present results may also be limited by the fact that all data was collected using self-report measures. Therefore, it is possible that participants overreported or underreported their symptoms when filling out the questionnaire.

It is also worth noting that the present study suffered from unequal sample sizes. For Hypothesis 1, the number of males ( $n = 59$ ) and females ( $n = 116$ ) differed significantly, which may have jeopardized the psychometric robustness of these findings. To address this issue, future research may benefit from utilizing stratified random sampling to ensure that the proportion of males and females included in the sample is equivalent.

Lastly, the sample for the present study was a sample of convenience and included undergraduate students from an introductory psychology class who were willing to participate in the study. The final sample was largely homogeneous, and the majority of participants identified as White, non-Hispanic, female college students between the ages of 18- and 22-years-old, which may limit the generalizability of these findings. Additionally, all participants in the study were currently enrolled as undergraduate students at a university in the northeast section of the United States, which suggests that these results may not be generalizable to non-college populations. When interpreting the results of the present study, it is critical to take into consideration the fact that this sample may not be representative of all young adults in the United States.

### **Future Directions**

Although this study has provided a meaningful starting point for examining the relationship between childhood maltreatment severity, coping styles, and social anxiety, there are numerous ways that future researchers can improve and expand upon the current findings. Future studies should utilize a more diverse sample that is representative of the general population in terms of gender, race/ethnicity, socioeconomic status, and education level.

Additionally, because previous research has shown that particular coping styles are often linked to age and development, future studies might also benefit from examining the relationship between childhood maltreatment severity, coping styles, and social anxiety among individuals from different age groups. Examining these differences among age groups may shed light on how coping styles influence social anxiety over time in individuals who have been victims of childhood maltreatment.

Because the relationship between emotion-oriented coping and social anxiety was the strongest relationship observed in the present study, future research should attempt to probe deeper into this association in order to learn more about the underlying mechanisms that contribute to this relationship over time. Given the present results, it is possible that emotion-oriented coping may moderate other outcomes of childhood maltreatment severity, such as depression, generalized anxiety, and post-traumatic stress. Examining the relationship between emotion-oriented coping, social anxiety, and maltreatment subtypes (e.g., emotional abuse and neglect, specifically) may also be useful for identifying how coping influences later outcomes in maltreatment victims.

Lastly, researchers who are interested in continuing to investigate this topic might benefit by incorporating data that does not rely solely on self-report measures. Examining participants' past medical and mental health records may also be useful in providing an additional layer of information about experiences with childhood maltreatment and social anxiety. Additionally, assessing participants about their maltreatment experiences during childhood and following up with outcome measures during early adulthood may also be beneficial for generating more reliable data.

Appendix. Path Models for Hypotheses 2 & 3

Figure 1. Hypothesis 2: Coping Style as a Moderator of the Relationship Between Childhood Maltreatment and Social Anxiety

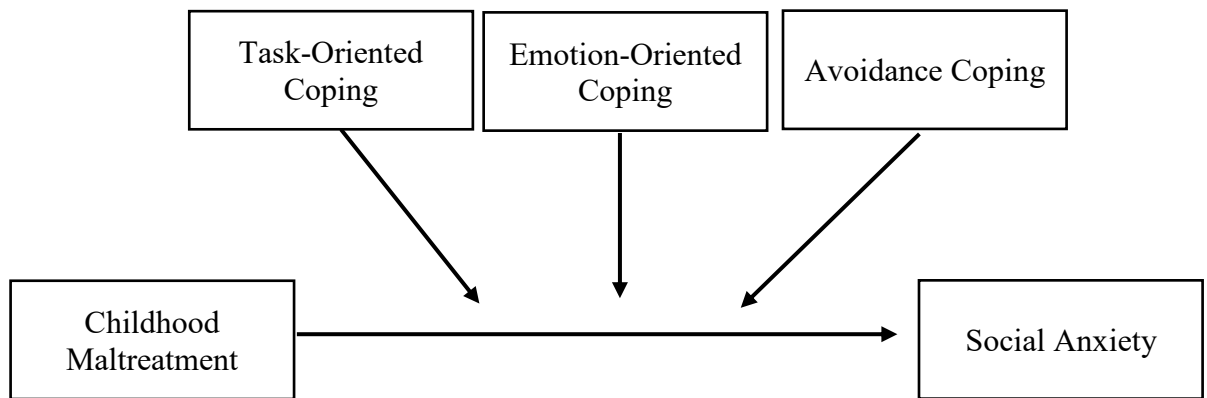
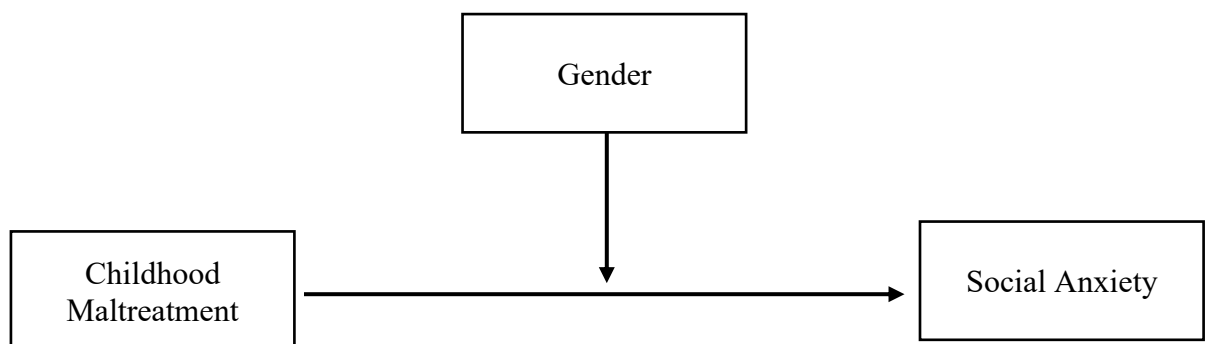


Figure 2. Hypothesis 3: Gender as a Moderator of the Relationship Between Childhood Maltreatment and Social Anxiety



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