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RESILIENCE, COPING STRATEGIES, AND INTERNALIZING DISORDERS AMONG CHILDHOOD MALTREATMENT VICTIMS

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RESILIENCE, COPING STRATEGIES, AND INTERNALIZING DISORDERS
AMONG CHILDHOOD MALTREATMENT VICTIMS

BY

BRYANA E. KILLION

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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DOCTOR OF PHILOSOPHY DISSERTATION

OF

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ABSTRACT

The relationship between childhood maltreatment and internalizing disorders, such as anxiety and depression, is well-substantiated; however, fewer studies have investigated the pathways leading to this association. Additionally, although rates of internalizing disorders are higher among maltreated individuals than in the general population, less is known about why some maltreated individuals appear resilient, continuing to thrive and display relatively normative development despite these traumatic experiences. Accordingly, research has begun to investigate the interplay between coping and resilience in relation to long-term outcomes following childhood maltreatment. While resilience may influence how a stressor is appraised, coping strategies refer to the cognitive and behavioral approaches an individual utilizes to manage a stressor following its appraisal. Therefore, resilience may inform the selection of coping strategies used by an individual, subsequently influencing the development or severity of psychopathology. The present study is among the first to examine how resilience and coping strategies interact to contribute to internalizing symptomology in a maltreated sample. Participants were recruited from the community and through online methods and included 242 adults ($M_{Age} = 29.12$, $SD = 12.92$) who endorsed maltreatment experiences during childhood. All data was collected online, and participants completed measures assessing childhood trauma, resilience, coping, and mood and anxiety disorders. Findings revealed that overall resilience buffered the relationship between childhood maltreatment severity and depression, such that individuals who reported high levels of resilience endorsed similar depression symptomology regardless of their maltreatment severity during

childhood. No relationship was observed between maltreatment severity and generalized anxiety. Further, no coping strategies mediated the relationship between overall resilience and symptoms of generalized anxiety or depression. However, behavioral disengagement partially mediated the relationship between individual-level resilience and generalized anxiety as well as depression, offering evidence that individual-level resilience factors (e.g., personal skills, social skills) may uniquely contribute to the selection of coping strategies. No gender differences were observed in resilience or internalizing symptoms. Cultural and contextual factors, including socioeconomic status, race, and ethnicity, were also investigated through exploratory analyses to assess their interaction with resilience, coping, and internalizing symptoms. Notable limitations of this study included a homogeneous sample, non-normality of the data, and unequal group sizes. Implications for early intervention and treatment, as well as directions for future research, are discussed.

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love than I could have imagined, and has helped me to find balance over the last five years. He is the best part of every day, and this dissertation would not have been possible without him.

DEDICATION

To the first man who made me feel like the smartest, strongest, most beautiful girl in the world, and to the man who continues to make me feel like this every single day:

Dad and Sean, this dissertation is for you.

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CHAPTER 1

INTRODUCTION

Recent literature has indicated that childhood maltreatment impacts one in four children in the United States, placing these individuals at a heightened risk for numerous adverse outcomes, including substance abuse, physical health problems, and increased rates of psychopathology (Cecil, Viding, Fearon, Glaser, & McCrory, 2017; Douglas et al., 2010; Higgins & McCabe, 2001; Marshall et al., 2016). However, although the deleterious effects of childhood maltreatment are well-documented in the literature, significantly less is known about the pathways that contribute to the enduring psychological sequelae that are frequently observed in this population. Additionally, while maltreatment victims generally exhibit greater rates of psychopathology than are observed in the general population, some individuals appear to be relatively unaffected by their maltreatment experiences, a phenomenon referred to as resilience (Afifi & MacMillan, 2011; McGloin & Widom, 2001). Recent research has indicated that resilience generally results from the interplay of multiple factors, including personality, self-esteem, the quality of interpersonal relationships, family coherence, and intelligence (Afifi & MacMillan, 2011; Arslan, 2016; Ben-David & Johnson-Reid, 2017). However, to date, research on the distinct factors contributing to resilience among maltreated individuals is limited, and few studies have investigated how resilience may influence outcomes such as generalized anxiety and depression during adulthood. Furthermore, although rates of resilience generally appear to be higher among females in comparison to males, little research has explored the mechanisms accounting for this difference (DuMont, Widom, & Czaja, 2007).

In addition to the influential role of resilience, an emerging body of literature has also begun to investigate how coping strategies may contribute to outcomes following maltreatment experiences (Alim et al., 2008; Ben-David & Jonson-Reid, 2017; Wright, Crawford, & Sebastian, 2007). Differing from resilience, which may influence the way a stressor is appraised, coping strategies refer to the cognitive, behavioral, and emotional approaches used by an individual to manage or directly address a stressor following its appraisal. Although existing research has frequently explored overall styles of coping (i.e., task-oriented, emotion-oriented), few studies have examined how individual strategies of coping (e.g., humor, acceptance, denial, substance use) may influence maltreatment outcomes. This distinction is significant because individuals rarely utilize a singular coping style, often drawing on numerous coping strategies that may cut across the primary coping styles identified in the literature (Thompson, Fiorello, Rothbaum, Ressler, & Vasiliki, 2018). Therefore, considering the distinct coping strategies utilized by maltreated individuals may provide a more nuanced understanding of how recurrent use of specific strategies may relate to symptoms of internalizing disorders during early adulthood.

To date, no research has examined how the interaction of resilience and coping strategies, in comparison to overall coping styles, may influence the relationship between childhood maltreatment and symptoms of internalizing disorders, such as generalized anxiety and depression. Additionally, although research has suggested that there are distinct gender differences in coping styles, gender differences in specific coping strategies remain largely unexplored in the literature (Matud, 2004). Of concern, even fewer studies have considered how cultural and contextual factors (e.g.,

race, ethnicity, and socioeconomic status) may contribute to the long-term outcomes associated with maltreatment (Herrenkohl & Herrenkohl, 2007; Widom, Czaja, Wilson, Allwood, & Chauhan, 2012). Given the significant gaps in the literature, the present study investigated several factors that research has begun to identify as influential contributors to outcomes following maltreatment, including resilience and coping strategies. Cultural and contextual factors such as gender, race, ethnicity, and socioeconomic status were also taken into consideration (Herrenkohl & Herrenkohl, 2007; Matud, 2004; Widom et al., 2012).

CHAPTER 2

REVIEW OF THE LITERATURE

Children are one of the most vulnerable populations in society, and childhood maltreatment is a pervasive problem that has received increasing attention in recent years (CDC, 2014; USDHHS, 2016). Although legislature regarding childhood maltreatment varies across state lines, the Federal Child Abuse and Prevention Act (CAPTA) defines child maltreatment 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” (USDHHS, 2016). The majority of state child protection laws identify four primary forms of child maltreatment, which include neglect, physical abuse, psychological maltreatment, and sexual abuse. In 2014, the National Child Abuse and Neglect Data System (NCANDS) revealed that most maltreatment victims were White (44.0%), Hispanic (22.7%), or African-American (21.4%). Research suggests that although males and females are victimized at comparable rates, females are more likely than males to report childhood experiences of sexual abuse (Collin-Vezina et al., 2011; Finkelhor et al., 2013).

Childhood maltreatment: Forms and severity. When considering the types of child maltreatment, research has overwhelmingly revealed that neglect is, by far, the most frequently reported form of maltreatment (CDC, 2014; Higgins & McCabe, 2001). According to the CDC (2014), physical neglect accounts for approximately three-quarters (78%) of reported maltreatment cases in the United States, followed by physical abuse (18%), and sexual abuse (9%). The remaining maltreatment cases involve less frequently reported forms of maltreatment, including emotional abuse and

parental substance abuse. However, although emotional abuse and neglect often go unreported, the literature has indicated that emotional abuse may actually be the most common form of maltreatment, with approximately 8% of all in the United States children being victimized each year and 25.7% being victimized during their lifetimes.

Research has suggested that maltreatment forms generally do not occur independently, and the majority of victimized children endure multiple forms of abuse and neglect throughout childhood (Arata et al., 2007; Higgins & McCabe, 2001; Negele et al., 2015). For example, in their review of the literature on maltreatment, Higgins and McCabe (2001) found significant overlap in the experiences of physical and emotional abuse among maltreated children, indicating that youth who experienced one form of maltreatment were more likely to report experiencing the other form of maltreatment as well. In comparison to single-type victims, individuals who endured multitype maltreatment during childhood appeared to endorse more severe internalizing and externalizing symptoms. Additionally, the most symptomatic adolescents were those who experienced neglect in combination with physical and/or sexual abuse, which suggests that neglect may uniquely contribute to the severity of symptoms observed in children who experience multitype maltreatment. The particularly deleterious effects observed when neglect occurs in combination with other forms of maltreatment have been partially attributed to the failure to meet the child's basic needs of food, shelter, and parental love and care, which may intensify the harmful impact of other experiences of maltreatment. However, to date, research on this topic is limited, and little is known about the mechanisms that contribute to this relationship.

Childhood maltreatment and internalizing disorders. Numerous deleterious outcomes have been associated with abuse and neglect, and research has consistently demonstrated a link between childhood maltreatment and the development of internalizing disorders, such as generalized anxiety and major depressive disorder (Collin-Vezina et al., 2011; Douglas et al., 2010; Negele et al., 2015). For example, Douglas et al. (2010) found that childhood physical and sexual abuse led to an increased risk for internalizing disorders which were also associated with greater substance dependence later in life. The literature has also indicated that maltreated individuals may experience more severe anxious and depressive symptoms than are observed in the general population, further substantiating this relationship (Collin-Vezina et al., 2011; Negele et al., 2015).

Although all forms of childhood maltreatment appear to be associated with heightened rates of internalizing disorders, research has recently identified emotional abuse and neglect as distinct contributors to the development of these disorders (Cecil et al., 2017; Negele et al., 2015; Van Vugt et al., 2014). After individually examining multiple forms of maltreatment, Cecil and colleagues (2017) found that only emotional abuse appeared to contribute uniquely to internalizing disorders and trauma-related psychopathology among maltreated children. Other studies have yielded similar findings, demonstrating that emotional abuse and neglect have been associated with greater anxious arousal and depression when compared to other forms of maltreatment (Infurna et al., 2016; Van Vugt et al., 2014). The association between internalizing disorders and emotional abuse is believed to result from repeated experiences of rejection and criticism early in life, which may negatively impact the

development of maltreated individuals' self-esteem, perceptions of others, and emotion regulation skills. However, because most maltreated youth experience multiple forms of maltreatment throughout childhood, research has posited that emotional abuse, in conjunction with other forms of maltreatment, may significantly heighten the deleterious effects that are frequently observed in this vulnerable population (Cecil et al., 2017; Edwards et al., 2003).

Relatedly and of great concern, extant literature has consistently demonstrated a link between the severity of childhood maltreatment and psychiatric symptomatology in adulthood (Cecil et al., 2017; Collishaw et al., 2007; Evans et al., 2013). Negele and her colleagues (2015) found that multiple exposures to childhood abuse and neglect were associated with more severe depressive symptoms during adulthood, and this relationship appeared to be the strongest among youth who had experienced repeated emotional and sexual abuse during childhood. Other studies have indicated that greater maltreatment severity is also linked to higher clinical levels of posttraumatic stress, anger, and dissociative symptoms than are observed in the general population (Collin-Vezina et al., 2011; Evans et al., 2013). Jointly, these findings provide support for an additive model of trauma, suggesting that there is a cumulative effect of maltreatment on development, adjustment, and subsequent psychopathology.

Resilience. Although the negative sequelae associated with childhood maltreatment are well-documented, some youth appear to be relatively unaffected by their maltreatment experiences, a phenomenon referred to as resilience (Afifi & MacMillan, 2011; Arslan, 2016; DuMont et al., 2007). In the literature, individuals

are frequently classified as resilient when they demonstrate an absence of negative outcomes and a normal range of competence across several domains of functioning (e.g., behavioral, social, emotional) despite the high risk for poor outcomes based on their exposure to traumatic experiences (Ben-David & Jonson-Reid, 2017; Collishaw et al., 2007; Luthar et al., 2000). However, at present, there is no standard or operational definition of resilience, leading to considerable variation in the way that it is defined and measured across studies (Afifi & MacMillan, 2011).

Despite ambiguity about its measurement, resilience is viewed as a relatively dynamic process that may vary over time and across situations. Due to its dynamic nature, researchers frequently measure resilience as a multidimensional construct because it is common for individuals to demonstrate competence in some domains but not others. Accordingly, utilizing multiple indicators may be advantageous over other approaches because it provides a more comprehensive examination of an individual's functioning (Afifi & MacMillan, 2011; Ben-David & Jonson-Reid, 2017). Although the specific pathways that lead to resilience remain unclear, a substantial body of psychological research has examined resilience from an ecological perspective, taking into consideration individual-level, family-level, and community-level protective factors (Afifi & MacMillan, 2011; Collishaw et al., 2007). This approach may be particularly beneficial because it accounts for the multiple systems that influence an individual by acknowledging the interplay between social, environmental, and developmental factors that occur both distally and proximally (Bronfenbrenner, 1979; Williams & Nelson-Gardell, 2012). Still, even across studies, the specific ways these factors are defined and measured varies greatly.

Resilience and childhood maltreatment. Research has consistently identified several factors that appear to be associated with resilience among maltreated youth (Ben-David & Jonson-Reid, 2017; DuMont et al., 2007; Evans et al., 2013). In their recent review of the literature, Ben-David and Jonson-Reid (2017) found that social support and positive relationships across the lifespan have repeatedly been linked to greater resilience and more adaptive functioning among individuals who have experienced maltreatment. Specifically, peer relationships during adolescence, the quality of adult friends, and the stability of romantic relationships during adulthood have all been related to resilience following childhood maltreatment, suggesting that strong interpersonal associations may help protect children against the deleterious effects of abuse and neglect (Collishaw et al., 2007). Other factors identified as positively related to resilience include high self-esteem, an internal locus of control, and low self-blame for victimization experiences. Cumulatively, these findings suggest that individual factors play a significant protective role in the relationship between childhood maltreatment and later emotional and behavioral problems (Alim et al., 2008; Arslan, 2016).

In addition to individual characteristics, community-level factors may contribute to resilience in maltreated children. For example, DuMont and her colleagues (2007) found that youth who grew up in advantaged neighborhoods and evidenced higher cognitive abilities were three times more likely to be resilient than other maltreated individuals. Additionally, among children who experienced sexual abuse, low levels of school engagement, caregiver support, and socioeconomic status have all been associated with decreased resilience, suggesting that environmental

factors may also contribute to an individual's adjustment following maltreatment experiences (Williams & Nelson-Gardell, 2012). However, existing literature on this topic is negligible, and little is known about how different indicators of resilience may influence the relationship between childhood maltreatment and symptoms of internalizing disorders during emerging adulthood.

Coping strategies. Although numerous factors appear to be implicated in the relationship between maltreatment and subsequent psychopathology, an emerging body of literature has suggested that coping may play a decisive role in predicting future psychological difficulties (Littleton et al., 2007; Thompson et al., 2018; Sesar et al., 2010). In their transactional model, Lazarus and Folkman (1984) defined coping as a two-pronged construct which includes both the way an individual appraises and interprets events as well as the cognitive and behavioral strategies that they use to manage perceived stressors. Research has indicated that coping generally serves two primary functions, which include a) managing or addressing the problem that is causing the stressor, and b) managing one's emotional response to the stressor (Kariv & Heiman, 2005).

Despite its widely accepted definition, there is no gold standard to measure coping, and researchers differ in the way they operationalize and measure this construct (Thompson et al., 2018). In the existing literature, coping is often classified in terms of overall coping styles (i.e., task-oriented, emotion-oriented, avoidance coping), which examine the way individuals typically respond to events they perceive as stressful. However, because coping is a complex, multidimensional process, this broad approach may have limited efficacy because it neglects to take into

consideration the distinct strategies that individuals use, which often cut across the primary coping styles. Focusing on distinct coping strategies (e.g., humor, positive reframing, denial) may be more advantageous because individuals rarely utilize a singular coping style across time and situations, instead drawing on numerous strategies that may be challenging to identify as a cohesive style. Due in part to the fluidity of coping, considering the discrete coping strategies that maltreated individuals use may provide more fruitful information about how these strategies relate to symptoms of internalizing disorders. However, to date, no studies have utilized this approach to examine the relationship between childhood maltreatment, coping, and psychopathology.

Coping strategies and childhood maltreatment. Although existing literature on coping strategies in relation to childhood maltreatment is sparse, several coping strategies have consistently been linked to greater subjective well-being and adaptive functioning following traumatic experiences such as childhood maltreatment (Alim et al., 2008; Ben-David & Jonson-Reid, 2017; Wright et al., 2007). For example, active or approach-oriented coping strategies, such as confronting the abuse or neglect through disclosure, have been identified as protective factors associated with more positive functioning and decreased psychopathology among maltreated individuals (Ben-David & Jonson-Reid, 2017). Similarly, other research has found that both positive reframing and seeking emotional support were related to fewer symptoms of psychological distress following childhood trauma (Alim et al., 2008). Alim and her colleagues (2008) found that greater endorsement of emotional expression was associated with decreased trauma symptoms while the opposite was true when

maltreated individuals suppressed their emotions, indicating that there may be some benefit associated with acknowledging and expressing one's emotions surrounding maltreatment experiences.

While coping strategies associated with confronting past trauma appear to be associated with greater adaptive functioning, research has indicated that strategies characterized by avoidance may lead to increased distress and more maladaptive outcomes across the lifespan (Ben-David & Jonson-Reid, 2017; Littleton et al., 2007; Wright et al., 2007). Avoidance strategies such as withdrawal, behavioral disengagement, and self-criticism have all been associated with lower self-esteem and increased symptoms of depression among individuals who have experienced trauma (Ben-David & Jonson-Reid, 2017; Thompson et al., 2018). Existing literature has posited that although such strategies may be adaptive in the short term, they may perpetuate psychological distress and result in increased psychopathology if used continuously for extended periods of time. Although the specific mechanisms accounting for this association are not well-studied, some research has indicated that avoidance strategies may indirectly lead to more deleterious outcomes because they inhibit one's ability to manage stressors in an adaptive manner, resulting in poor appraisal and interpretation of events when future stressors arise (Thompson et al., 2018). However, the literature on this topic is negligible, necessitating additional research that delineates how coping strategies may influence the outcomes associated with maltreatment.

Coping strategies and resilience. Although coping strategies and resilience are closely linked and are frequently used interchangeably, there is a growing

consensus that they are theoretically distinct constructs (Campbell-Sills et al., 2006; Thompson et al., 2018). While resilience may influence how a stressor is appraised, coping strategies refer to the cognitive and behavioral approaches an individual utilizes to manage a stressor following its appraisal (Thompson et al., 2018). Therefore, resilience may inform the selection of coping strategies used by an individual, subsequently influencing the development or severity of psychopathology.

Research investigating the interaction of coping strategies and resilience in maltreated individuals is sparse. However, some literature has offered evidence of a positive relationship between resilience and active forms of coping, including problem-solving and cognitive restructuring (Campbell-Sills et al., 2006; Thompson et al., 2018). For example, one study found that task-oriented (active) coping was related to greater resilience while more emotion-oriented forms of coping were associated with lower resilience in a sample of young adults (Campbell-Sills et al., 2006). These findings were recently corroborated by Thompson and his colleagues (2018) who examined coping strategies as mediators between resilience and posttraumatic stress symptoms in individuals who had recently been exposed to trauma. Their results indicated greater resilience was predictive of active coping strategies but was inversely related to avoidant coping strategies (i.e., social withdrawal), which were associated with greater endorsement of posttraumatic stress. These findings suggest that resilience may contribute to the selection of coping strategies in a trauma sample, directly influencing the development and severity of psychiatric symptoms. However, at present, no research has explored how resilience may inform coping strategies and symptoms of internalizing disorders in a maltreated sample.

Cultural and contextual considerations. When considering the relationship between childhood maltreatment and internalizing disorders, it is critical to consider the influential role of cultural and contextual factors, such as gender, race, ethnicity, and socioeconomic status (SES).

Gender. A substantial body of literature has identified gender differences in psychopathology among individuals who are maltreated during childhood (Cullerton-Sen et al., 2008; Thompson et al., 2004; Godinet et al., 2014). Males appear more likely to exhibit externalizing behaviors, such as expressing anger and acting out aggressively, although these behaviors generally decrease over time. However, for females who have experienced maltreatment, adverse behaviors are more likely to intensify over time, with greater internalizing behaviors emerging during adolescence and early adulthood (Godinet et al., 2014).

In addition to differences in symptomology, the literature has also illuminated numerous gender differences in the factors implicated in the development of psychopathology following abuse or neglect. For example, a growing body of literature has indicated that women are more likely than men to exhibit resilience following experiences of childhood maltreatment, although the mechanisms contributing to this difference remain unclear (Ben-David & Jonson-Reid, 2017; DuMont et al., 2017). Additionally, research has continually offered evidence for gender differences in coping (Christiansen et al., 2004; Eschenbeck et al., 2007; Kelly et al., 2008; Matud, 2004). In comparison to men, women endorse significantly greater use of emotion-oriented coping strategies, such as seeking emotional support from others. In contrast, men generally appear to cope with stressors by utilizing problem-

focused approaches, which are frequently associated with more adaptive outcomes (Eschenbeck et al., 2007; Kelly et al., 2008).

As previously mentioned, research has suggested that resilience may influence the appraisal of stressors, thus informing the selection of coping strategies (Thompson et al., 2018). Consequently, because the literature has indicated that women are often more resilient than men, it may be inferred that women utilize more adaptive coping strategies that contribute to better overall functioning and decreased psychopathology. However, extant literature has repeatedly revealed that women are significantly more likely than men to develop internalizing disorders following maltreatment experiences, which casts doubt on this theory. Given this, it appears that the relationship between gender and maltreatment outcomes is incredibly complex, necessitating additional research to uncover the pathways that contribute to this association.

Race, ethnicity, SES. In addition to gender, some research has examined race, ethnicity, and socioeconomic status (SES) in relation to childhood maltreatment, although research in this domain is incredibly sparse (Drake et al., 2009; Lee et al., 2012; Putnam-Hornstein et al., 2013; Slack et al., 2011). Of concern, national data have continually indicated that Black children are disproportionately overrepresented among maltreatment victims while White and Latino children are frequently underrepresented (Drake et al., 2009; Putnam-Hornstein et al., 2013). However, the increased prevalence of childhood maltreatment among Black children appears to be strongly related to SES. For example, a recent study found that although Black children were more than twice as likely as White children to be referred to Child Protective Services (CPS) for child abuse or neglect, after controlling for SES, Black

children were significantly less likely than White children to be referred to CPS for issues related to maltreatment (Putnam-Hornstein et al., 2013). This finding suggests that the heightened prevalence rates of maltreatment observed among Black children may be attributed more to low SES than to race. Other research has yielded similar findings, providing additional support for this theory (Drake et al., 2009).

Given that SES appears to be a significant predictor of reported experiences of childhood maltreatment, it is perhaps unsurprising that prevalence rates are highest among Black children. According to the United States Census Bureau (2016), 24.1% of Black individuals were living below the poverty line in 2015, compared to 21.4% of Hispanic individuals, 11.6% of White individuals, and 11.4% of Asian individuals, suggesting that there are significant racial differences in national poverty. However, research has indicated that most studies do not account for SES despite its robust relation both to maltreatment experiences and their corresponding outcomes (Higgins & McCabe, 2001). Additionally, although the initial link between maltreatment, race, and SES has been established, there is a dearth of literature examining how these factors interact over time to influence psychological sequelae during adulthood.

The present study. Although the association between childhood maltreatment and outcomes such as depression and anxiety is well-documented, few studies have examined the moderating effects of resilience on these relationships, and limited research has explored how males and females may differ in the types of resilience they exhibit. Additionally, to date, no existing studies have examined the interaction of coping strategies and resilience in a maltreated sample. Given this, the present study aimed to test the following primary hypotheses:

- 1) Overall resilience will moderate the relationship between childhood maltreatment severity and symptoms of a) generalized anxiety, as well as b) depression.
- 2) Females will report significantly higher levels of overall resilience in comparison to males.
- 3) Coping strategies will mediate the relationship between overall resilience and symptoms of a) generalized anxiety, as well as b) depression.

Secondary hypotheses were also investigated, including:

- 4) Victims of emotional abuse and neglect will endorse the highest levels of a) generalized anxiety and b) depression when controlling for overall resilience.
- 5) Males and females will differ significantly in their endorsement of individual, contextual, and relational resilience.
- 6) Family SES during childhood will moderate the relationship between maltreatment severity and a) generalized anxiety symptoms, as well as b) depressive symptoms.

Additional exploratory analyses were conducted to examine how race, ethnicity, gender, and family SES interacted with the primary variables of interest.

CHAPTER 3

METHODOLOGY

Participants

Following approval from the Institutional Review Board at the University of Rhode Island, participants who identified as 18 years or older were recruited to participate in this study. Recruitment began in November 2018 and concluded in April 2019. Participants were recruited from undergraduate psychology courses at the University of Rhode Island, two community medical centers, two mental health centers, social networking sites, and snowball methods. Recruitment strategies included direct emails to psychology course instructors and directors of the community medical and mental health centers, posts on social media sites (i.e., Facebook, Twitter, LinkedIn), and classroom announcements via a PowerPoint slide advertising the study. Social media posts advertising the study were made once per month until recruitment was completed. See Appendix A for specific recruitment materials for each method of recruitment.

Because the present study aimed to examine childhood maltreatment and subsequent psychopathology, the *Childhood Trauma Questionnaire* (CTQ; Bernstein & Fink, 1998) was used as a screener, and only participants who endorsed maltreatment experiences during childhood were included in the final sample. Using the guidelines for maltreatment classification on the *CTQ* identified by Bernstein and Fink (1998), only participants who endorsed at least low-to-moderate maltreatment experiences (CTQ scores ≥ 30) were included in this study.

A total of 414 participants completed at least part of the survey, and 242 participants were included in the final sample. Of the 172 participants who did not meet inclusion criteria, 120 were excluded because they did not meet the minimum cutoff for maltreatment severity on the CTQ, 51 were excluded because they exited the survey prior to completing the CTQ, and one participant was excluded because they self-identified as under 18 years old.

Measures

Demographics Questionnaire. Participants were asked to complete a brief demographics questionnaire, which was used to gather descriptive background information. Demographic information requested in the questionnaire included gender, race and ethnicity, age, education, history of mental health diagnoses and treatment, as well as parents' education, occupation, and marital status during their childhood (see Appendix B).

Childhood Trauma Questionnaire (CTQ). The CTQ (Bernstein & Fink, 1998) is a 28-item retrospective self-report measure that includes five scales which assess experiences with various forms 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*). The CTQ also includes a minimization/denial scale, which contains three items and is used to detect the underreporting of maltreatment experiences. The CTQ begins with the statement "When I was growing up..." and includes items such as, "I felt that someone in my family hated me" (Emotional Abuse), "People in my family hit me so hard that it left

me with bruises or marks” (Physical Abuse), “Someone molested me” (Sexual Abuse), “People in my family looked out for each other” (Reverse-Scored; Emotional Neglect), and “I didn’t have enough to eat” (Physical Neglect). Total possible scores range from 5 to 25 on each scale and 25 to 125 for the composite of the five scales.

The CTQ is one of the most widely used measures for retrospectively examining childhood maltreatment in both adolescents and adults, and research has consistently offered strong support for its psychometric properties (Bernstein & Fink, 1998; Forde, Baron, Scher, & Stein, 2012; Karos, Abidi, Bernstein, & Bader, 2014). The measure has demonstrated high internal consistency ($\alpha = .79-.94$) and test-retest reliability ($ICC = .88$), and confirmatory factor analysis (CFA) has provided support for the five-factor model across diverse samples, including college students.

For the present study, childhood maltreatment was coded continuously on two dimensions: severity and subtype. 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. Similarly, continuous scores were generated for each of the five maltreatment subtypes. From the five maltreatment subtypes, four distinct composite scores were generated for a) physical abuse and neglect, b) emotional abuse and neglect, c) sexual abuse, and d) multitype maltreatment (i.e., combination of emotional abuse/neglect *and/or* physical abuse/neglect *and/or* sexual abuse).

Child and Youth Resilience Measure-28 (CYRM-28). The CYRM-28 (Resilience Research Centre, 2009) is a 28-item self-report measure that assesses resilience and competency in three primary domains: individual capacities and

resources, relationships, and contextual factors. The individual capacities scale assesses personal skills, peer support, and social skills; the relationship scale assesses physical caregiving and psychological caregiving; and the contextual scale assesses spiritual, educational, and cultural factors. On the CYRM-28, respondents are asked to indicate the extent to which each item describes them, and responses are rated on a 5-point Likert-type scale, ranging from 1 (*Not at All*) to 5 (*A Lot*). The CYRM-28 includes items such as, “I am aware of my own strengths” (Individual), “I talk to my family about how I feel” (Relationships), and “I am treated fairly in my community” (Contextual). Total scores on the CYRM-28 may range from 28 to 140, with higher scores indicating greater levels of resilience. Because each scale includes a differing number of questions, scale scores may range from 11 to 55 on the Individual scale, 7 to 35 on the Relationships scale, and 10 to 50 on the Contextual scale.

Although the measure is relatively new, CFA has provided support for the three-factor model (Liebenberg et al., 2012). The CYRM-28 has also demonstrated strong test-retest reliability and internal consistency ($\alpha = .65-.91$), providing additional support for its psychometric properties. For the current study, resilience was coded in two ways: overall resilience and resilience type. Overall resilience was coded continuously using a composite score of the three scales; resilience type was scored continuously using each of the three scales (i.e., individual resilience, relational resilience, contextual/sense of belonging resilience).

COPE Inventory. The COPE Inventory (Carver, Scheier, & Weintraub, 1989) is a multidimensional inventory that assesses the various cognitive and behavioral ways individuals respond to stress. The measure includes 60 statements that are rated

on a 4-point Likert-type scale with options ranging from 1 (*I usually don't do this at all*) to 4 (*I usually do this a lot*). The COPE Inventory includes 15 scales which correspond to a variety of coping strategies (e.g., active coping, humor, denial) and have been confirmed through principal components analysis. The COPE Inventory includes items such as, “I turn to work or other substitute activities to take my mind off things” (Mental Disengagement), “I laugh about the situation” (Humor), “I make a plan of action” (Planning), “I discuss my feelings with someone” (Emotional Social Support), and “I pretend that it hasn't really happened” (Denial). Scores on each of the 15 scales may range from 1 to 16, with higher scores indicating greater endorsement of that coping strategy.

Research has provided support for the measure's internal consistency ($\alpha = .75-.92$) and test-retest reliability (Carver et al., 1989; Fontaine et al., 1993; Litman, 2006). For the present study, each of the 15 coping strategies was scored continuously using each of the COPE scales to parse out the differential effects of each coping strategy.

Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D (Radloff, 1977) is a 20-item self-report measure that assesses depressive symptomology in both clinical and non-clinical populations (Loe et al., 2017; Radloff, 1977; Suh et al., 2017; Vilagut et al., 2016). Respondents are asked to indicate how often they experienced each symptom over the past week, and items are rated on a 4-point Likert-type scale with options ranging from 0 (*Rarely or None of the Time*) to 3 (*Most or All of the Time*). The CES-D includes items such as, “I had trouble keeping my mind on what I was doing,” “I felt depressed,” “I thought my life had been a failure,” and “I could not shake off the blues even with help from family or friends.”

Scores may range from 0 to 60, with higher scores indicating greater endorsement of depressive symptoms.

The CES-D is a widely used tool that has been well-validated in both clinical and non-clinical populations (Loe, Stillwell, & Gibbons, 2017; Radloff, 1977; Suh, van Nuenen, & Rice, 2017; Vilagut, Forero, Barbaglia, & Alonso, 2016). The measure has demonstrated high internal consistency in non-clinical populations ($\alpha > .85$) as well as satisfactory test-retest reliability ranging from 2 weeks to 3 months (Hann, Winter, & Jacobsen, 1999). For the current study, depressive symptoms were scored continuously using the overall score on the CES-D.

Generalized Anxiety Disorder 7-Item Scale (GAD-7). The GAD-7 (Spitzer, Kroenke, Williams, & Lowe, 2006) is a unidimensional 7-item screening tool that assesses for symptoms of generalized anxiety disorder. Respondents are asked to indicate the frequency with which they have experienced each symptom over the past 2 weeks, and items are rated on a 4-point Likert-type scale with options ranging from 0 (*Not at All Sure*) to 3 (*Nearly Every Day*). The GAD-7 includes items such as, “Feeling nervous, anxious, or on edge,” “Trouble relaxing,” and “Feeling afraid as if something awful might happen.” Scores may range from 0 to 21, with higher scores indicating greater levels of anxiety symptoms.

The GAD-7 has demonstrated strong specificity and sensitivity and has been well-validated across diverse samples (Hinz et al., 2017; Jordan, Shedden-Mora, & Lowe, 2017; Plummer, Manea, Trepel, & McMillan, 2016; Spitzer et al., 2006). Research has offered substantial support for the GAD-7’s convergent validity, internal consistency ($\alpha = .75-.85$), and test-retest reliability (Hinz et al., 2017; Spitzer et al.,

2006). For the current study, generalized anxiety symptoms were scored continuously using the overall score on the GAD-7.

Procedures

Surveys were administered using Qualtrics, an online survey and questionnaire tool, and no identifying information was collected or accessed by the researchers. Prior to beginning the online survey, participants were directed to an informed consent form, which briefly explained the study's purpose (see Appendix C). The online survey required approximately 25-35 minutes to complete, and participants were informed that they could withdraw from the study at any time without repercussion. At the end of the survey, links to resources for mental health were provided to participants in the event that they desired additional information or resources for treatment or support. In exchange for their participation, all participants were given the opportunity to provide their email addresses to enter into a drawing to win one of three \$25 Amazon gift cards following their completion of the survey. A separate link was provided for the gift card drawing so that no participant responses were linked to participant email addresses or identifying information.

For students who participated in the study for course credit, it was emphasized that non-participation or withdrawal would not affect their grade in the course. Students who chose to participate were offered extra credit for their participation. An alternate assignment worth an equivalent amount of extra credit was available for students who chose not to participate in the study.

CHAPTER 4

RESULTS

Preliminary Analyses

Power analyses. *A priori* power analyses were conducted in *G*Power 3.1* using the recommended power level of .80 as an input parameter to determine the necessary sample size (Cohen, 1988). All power analyses were calculated based on a moderate effect size at an alpha level of .05. For the linear regressions fixed model, R^2 , deviation from zero (Hypothesis 1, 3, & 6), results of the power analysis indicated that a sample size of 77 participants would be adequate for a moderate effect size, $f = .15$, $\alpha = .05$, $\beta = .80$. For the one-way analysis of variance (ANOVA; Hypothesis 2), the power analysis indicated that a sample size of 128 participants would be needed for a moderate effect size, $f^2 = .25$, $\alpha = .05$, $\beta = .80$. For the one-way multivariate analysis of covariance with one predictor, one covariate, and two response variables (MANCOVA; Hypothesis 4), the power analysis indicated that a sample size of 158 would be adequate for a moderate effect size, $f^2 = .0625$, $\alpha = .05$, $\beta = .80$. Finally, for the second one-way multivariate analyses of variance with one predictor and three response variables (MANOVA; Hypothesis 5), the power analysis indicated that a sample size of 180 participants would be needed for a moderate effect size, $f^2 = .0625$, $\alpha = .05$, $\beta = .80$. Given the exploratory nature of the remaining analyses, power analyses were not conducted. Based on this, it was determined that a sample size of at least 180 participants was necessary to detect effects in the present study.

Demographic statistics. All analyses in the current study were conducted using IBM SPSS® Statistics Version 26. Of the 242 participants included in the final

sample, 200 (82.6%) identified as female, 36 (14.9%) identified as male, 4 (1.7%) identified as non-binary, one participant (0.4%) identified as gender fluid, and one participant (0.4%) did not identify their gender. Participants ranged in age from 18 to 81 years old ($M_{Age} = 29.12$, $SD = 12.92$). Regarding race, 203 participants (83.9%) identified as White/Caucasian, 13 (5.4%) as multi-racial, 10 (4.1%) as Black/African American, 10 (4.1%) as Asian, four (1.7%) identified their race as “Other,” and two participants (0.8%) did not identify their race. The majority of participants (89.3%, $n = 216$) identified as non-Hispanic/Latino, 24 (9.9%) identified as Hispanic/Latino, and two participants (0.8%) did not report their ethnicity.

Approximately two-thirds of participants (66.1%, $n = 160$) reported that they were single and had never been married, and one-quarter (25.6%, $n = 62$) reported that they were currently married or in a domestic partnership. Half of the sample (50.4%, $n = 122$) reported that they had completed some college but did not have a degree (includes current students), 40 (16.5%) reported having a Bachelor’s degree, and 29 (12.0%) reported holding a graduate or professional degree. Regarding employment, the majority of participants were either students (34.2%, $n = 83$), employed full-time (29.8%, $n = 72$), or employed part-time (22.3%, $n = 54$). See Table 1 for full descriptive information for the sample.

Half of the participants (50.4%, $n = 122$) reported having a personal history of mental health issues, the most common of which were anxiety disorders (41.7%, $n = 101$) and depressive disorders (41.3%, $n = 100$). Furthermore, 106 participants (43.6%) reported that they had been formally diagnosed with a mental health disorder by a professional (e.g., doctor, therapist, psychiatric nurse). Regarding family history,

161 participants (66.5%) reported knowledge of family members with mental illness. See Table 2 for additional details on participant and family history of mental illness.

Maltreatment severity statistics. All participants included in the study endorsed the minimum cutoff for childhood maltreatment severity on the CTQ (CTQ Total Score ≥ 30). Possible scores on the CTQ range from 25 to 125, and actual scores for participants in this study ranged from 30 to 119 ($M = 46.93$, $SD = 17.44$). Based on the guidelines for maltreatment classification identified by Bernstein and Fink (1988), 47.5% ($n = 115$) of the sample endorsed low-to-moderate maltreatment severity during childhood ($30 \leq \text{CTQ Total Scores} < 40$); 37.2% ($n = 90$) endorsed moderate-to-severe maltreatment severity ($40 \leq \text{CTQ Total Scores} < 65$); and 15.3% ($n = 37$) endorsed severe-to-extreme maltreatment experiences during childhood (CTQ Total Scores ≥ 65). See Tables 3 and 4 for additional information on maltreatment severity and type for this sample.

Assumptions of general linear model. Basic assumptions of the general linear model were assessed to confirm that data met assumptions of normality, linearity, homoscedasticity, and homogeneity of regressions. Skewness and kurtosis values for generalized anxiety (GAD-7), depression (CES-D), and overall resilience (CYRM-28) total scores were all within normal limits. Several variables of interest did not meet assumptions of normality, including overall childhood maltreatment severity (CTQ Total Score; *Skewness* = 1.44), Physical Abuse (*Skewness* = 2.24), Sexual Abuse (*Skewness* = 2.38), and Physical Neglect (*Skewness* = 1.43), all of which were positively skewed. Both the COPE Denial Scale (*Skewness* = 1.17) and the COPE Substance Use Scale (*Skewness* = 1.42) were also positively skewed. For data that are

substantially positively skewed, prior research has recommended a log-10 transformation for the purpose of data analysis (Howell, 2007; Tabachnick & Fidell, 2007). Therefore, positively skewed variables were transformed prior to the primary analyses to meet assumptions of normality. See Table 5 for additional descriptive information on the primary variables of interest.

Missing data and outliers. Data were also examined for missing data points and outliers using SPSS Missing Values Analysis. Missing data ranged from 0 to 6.2% for each of the primary variables included in this study, and listwise deletion was used in cases with missing data for each analysis. Based on an observation of z-scores, two outliers (z -scores $> +3.0$) were detected for the variable measuring childhood maltreatment severity (CTQ Total Score) (Cousineau & Chartier, 2010). Primary analyses were conducted both with and without the outliers, and results did not differ significantly; therefore, all analyses are based on the original dataset.

Correlations. Significant correlations were observed among the primary variables of interest. Childhood maltreatment severity was positively correlated with symptoms of both generalized anxiety ($p < .05$) and depression ($p < .001$). Maltreatment severity was also negatively correlated with overall resilience ($p < .001$), as well as individual ($p < .001$), relational ($p < .001$), and contextual resilience ($p < .001$). Negative correlations were observed between maltreatment severity and several coping strategies, including positive reinterpretation and growth ($p < .01$), use of instrumental social support ($p < .05$), and use of emotional social support ($p < .05$). Maltreatment severity was also positively correlated with several coping strategies, including behavioral disengagement ($p < .05$), denial ($p < .05$), restraint ($p < .01$),

substance use ($p < .01$), and acceptance ($p < .05$). Both generalized anxiety ($p = .001$) and depression ($p < .001$) were negatively correlated with overall resilience. See Table 6 for the full list of correlations among the primary variables.

Internal consistencies. Internal consistency analyses were conducted to assess the psychometric properties of the scales and subscales used in the study. Childhood maltreatment severity, as assessed by the CTQ Total Score, yielded strong internal consistency ($\alpha = .94$). Coefficient alphas for each of the five subscales for the CTQ ranged from .73 to .96. High internal consistency was also observed for the GAD-7 Total Score ($\alpha = .93$), as well as the CES-D Total Score ($\alpha = .83$). Strong internal consistency was also observed for overall resilience, as assessed by the CYRM-28 Overall Resilience Score ($\alpha = .89$). The three scales of the CYRM-28 (i.e., individual, contextual, relational resilience) demonstrated satisfactory reliability, ranging from .75 to .82. Of the fifteen COPE subscales, thirteen evidenced adequate reliability, which ranged from .68 to .94. However, two COPE subscales yielded poor reliability (Mental Disengagement $\alpha = .41$; Suppression of Competing Activities $\alpha = .53$) and were therefore excluded from further analysis. Internal consistencies for all of the scales included in the present study are included in Table 7.

Primary Analyses

Hypothesis 1: Resilience as a Moderator. Two series of hierarchical multiple regressions were used to assess whether overall resilience moderated the relationship between childhood maltreatment severity and symptoms of a) generalized anxiety, as well as b) depression. For the analyses, the independent variable (IV; childhood maltreatment severity) and the moderator (M; overall resilience) were regressed on the

dependent variable (DV_a = generalized anxiety) in Step 1. For Step 2, if the IV and the moderator were significant in Step 1, an interaction term between the IV and the moderator (childhood maltreatment severity x overall resilience) was included in as Block 2 in the regression analysis. Steps 1 and 2 were repeated with the other dependent variable (DV_b = depressive symptoms). Multivariate effect sizes were interpreted according to Cohen's (1992) guidelines, which include: $R^2 = .02$ (small effect); $R^2 = .13$ (medium effect); and $R^2 = .26$ (large effect).

Hypothesis 1a: Generalized Anxiety. The first model tested the moderating effect of overall resilience on the relationship between childhood maltreatment severity and symptoms of generalized anxiety. In Step 1, maltreatment severity and overall resilience were regressed on generalized anxiety. Step 1 of the hierarchical multiple regression yielded statistically significant results and indicated that maltreatment severity and overall resilience accounted for approximately 5.9% of the variance in generalized anxiety ($R = .242$, $R^2 = .059$, $F(2, 220) = 6.863$, $p = .001$). The moderator, overall resilience, significantly predicted generalized anxiety; however, childhood maltreatment severity did not significantly predict generalized anxiety. Given that there was no relationship to moderate, Step 2 of the regression was not completed.

Hypothesis 1b: Depression. The second model examined the moderating effect of overall resilience on the relationship between childhood maltreatment severity and symptoms of depression. In Step 1, childhood maltreatment severity and overall resilience were regressed on depression. Step 1 of the hierarchical multiple regression yielded statistically significant results and indicated that childhood maltreatment

severity and overall resilience accounted for approximately 9.4% of the variance in depression ($R = .306$, $R^2 = .094$, $F(2, 217) = 11.231$, $p < .001$). Both the moderator and childhood maltreatment severity emerged as significant predictors of depression.

In Step 2, the interaction term between maltreatment severity and overall resilience was added to the regression model. Results indicated that the interaction accounted for a small, yet significant, proportion of the variance in depression severity ($\Delta R^2 = .017$, $\Delta F(1, 216) = 4.201$, $p = .042$, $\beta = -1.483$, $t(216) = -2.050$, $p < .05$). The inclusion of the interaction to the model accounted for an additional 1.7% of the variance in depression severity, indicating a fairly small effect. An examination of the interaction plot revealed a buffering effect of resilience, indicating that increasing levels of resilience decreased the effect of childhood maltreatment severity on depression (see Figure 1). At low maltreatment, depression severity was similar for individuals regardless of their level of resilience. However, at high maltreatment, individuals who reported low resilience endorsed the highest level of depression across all groups. Conversely, highly maltreated participants who reported high resilience endorsed significantly fewer symptoms of depression, and their depression severity appeared similar to that of other highly resilient individuals in both the low and average maltreatment groups. Additional information on the results of the moderated regression may be found in Tables 8 and 9.

Hypothesis 2: Gender Differences in Resilience. Based on prior research, it was predicted that overall resilience would differ significantly based on gender, such that females would endorse greater overall resilience than males. For the purpose of this initial analysis, gender was coded dichotomously as either 1) male or 2) female.

Six cases were excluded due to being identified as gender-fluid, non-binary, or “other.” Contrary to the hypothesis, an examination of the bivariate correlation between gender (i.e., males, females) and overall resilience revealed no significant relationship between the two variables ($r(228) = .033, p = .63$). Males ($M_{Resilience} = 105.52, SD = 17.67$) and females ($M_{Resilience} = 106.87, SD = 14.09$) reported comparable levels of overall resilience. Furthermore, individual, relational, and contextual resilience did not differ significantly by gender ($r(230) = -.042-.074, p = .27-.79$).

A one-way multivariate analysis of variance (MANOVA) was also conducted to determine whether males, females, and non-binary/gender fluid/self-identified “other” individuals differed significantly in resilience types. For this analysis, the IV was gender and the DVs were overall resilience, individual resilience, relational resilience, and contextual resilience. Effect size was interpreted based on Cohen’s (1992) guidelines, which are as follows: $\eta_p^2 = .01$ (small effect); $\eta_p^2 = .06$ (medium effect); and $\eta_p^2 = .13$ (large effect). Levene’s Test revealed that variances differed significantly for the contextual resilience variable; therefore, Pillai’s Trace was interpreted, as research has indicated that it is more robust against violations of normality than Wilks’ Lambda (Harlow, 2014). Results of the analysis revealed that the main effect was not significant, indicating no significant differences in resilience between groups (Pillai’s Trace = .029, $F(6, 460) = 1.14, p = .34, \eta_p^2 = .015$). Because the main effect was not significant, follow-up tests were not conducted. Additional information on the means for each group is available in Table 10.

Additional Findings. Exploratory analyses were also conducted to examine potential relationships between other demographic variables (i.e., race, ethnicity, family income during childhood) and resilience. A one-way analysis of variance (ANOVA) revealed significant racial differences in relational resilience ($F(2, 229) = 2.52, p = .04, \eta^2 = .042$). A Tukey HSD post hoc test indicated that individuals who identified as White/Caucasian ($M_{Rel. Resilience} = 26.74, SD = 5.19$) reported significantly greater relational resilience than individuals who identified as multi-racial ($M_{Rel. Resilience} = 21.91, SD = 7.40; p = .03$). However, after controlling for childhood maltreatment severity, the association between race and relational resilience was no longer significant ($F(4, 228) = 1.33, p = .26, \eta_p^2 = .023$). No other significant associations were observed between demographic variables and resilience.

Hypothesis 3: Coping as a Mediator Between Resilience and Internalizing Symptoms. A series of regression analyses were conducted to assess whether coping strategies mediated the relationship between overall resilience and symptoms of a) generalized anxiety, as well as b) depression. The proposed mediator variables (i.e., the specific coping strategy variables) were identified by an examination of Pearson product-moment correlations prior to the primary analysis. Coping strategies that were related to both overall resilience and symptoms of a) generalized anxiety and/or b) depression were then examined as mediators in further analyses. Although several coping strategies were significantly related to generalized anxiety and/or depression, behavioral disengagement emerged as the only coping strategy related to both overall resilience as well as generalized anxiety and/or depression; therefore, this was the only coping strategy variable included in the mediation models.

For the primary analyses, mediation was tested using a series of regression analyses. In Step 1 of each mediation model, a regression analysis was conducted to confirm the relationship of the IV (overall resilience) and the DV (either generalized anxiety symptoms or depressive symptoms). In Step 2, another regression analysis was conducted to confirm the relationship between the IV (overall resilience) and the mediator (behavioral disengagement). A regression analysis in Step 3 confirmed the significance of the relationship between the mediator and DV in the presence of the IV. Finally, a regression analysis was conducted to confirm the insignificance of the relationship between the IV and the DV in the presence of the mediator. Full mediation is present when the effect of the IV on the DV is no longer significant in the presence of the mediator (MacKinnon, Fairchild, & Fritz, 2007).

Hypothesis 3a: Generalized Anxiety. Results of the mediation model revealed that although behavioral disengagement trended toward decreasing the effect of overall resilience on symptoms of generalized anxiety, this change was not significant, and mediation did not occur. In Step 1, the total effect of overall resilience on generalized anxiety was significant ($\beta = -.22$, $t(221) = -.340$, $p < .001$). In Step 2, the total effect of overall resilience on behavioral disengagement was also significant ($\beta = -.13$, $t(221) = -2.00$, $p < .05$). Similarly, Step 3 revealed that the total effect of behavioral disengagement on generalized anxiety was significant ($\beta = .30$, $t(220) = 4.66$, $p < .001$). In the final step, the effect of overall resilience on generalized anxiety remained significant when controlling for behavioral disengagement ($\beta = -.18$, $t(220) = -2.81$, $p = .005$). Inclusion of behavioral disengagement accounted for an additional $\beta = .04$, indicating a small univariate effect. The Sobel Test revealed that the indirect

effect of overall resilience on generalized anxiety approached, but did not reach, significance ($z = -1.77, p = .076$), suggesting that the association between overall resilience and generalized anxiety was not significantly reduced by the inclusion of behavioral disengagement. See Figures 2 and 3 for path models for Hypothesis 3a.

Hypothesis 3b: Depression. Results of the mediation model revealed that although behavioral disengagement trended toward decreasing the effect of overall resilience on symptoms of depression, this change was not significant, and mediation did not occur. In Step 1, the total effect of overall resilience on depression was significant ($\beta = -.27, t(220) = -4.12, p < .001$). Step 2 revealed that the total effect of overall resilience on behavioral disengagement was significant ($\beta = -.13, t(220) = -2.00, p < .05$), as was the total effect of behavioral disengagement on symptoms of depression in Step 3 ($\beta = .28, t(219) = 4.40, p < .001$). In the full model, the effect of overall resilience on symptoms of depression remained significant when controlling for behavioral disengagement ($\beta = -.23, t(219) = -3.71, p < .001$). Inclusion of behavioral disengagement accounted for an additional $\beta = .04$, indicating a very small univariate effect. The Sobel Test revealed that the indirect effect of overall resilience on symptoms of depression approached, but did not reach, significance ($z = 1.76, p = .079$), indicating that the association between overall resilience and depression was not significantly reduced by the inclusion of behavioral disengagement. See Figures 4 and 5 for path models for Hypothesis 3b.

Additional Findings. Bivariate correlations were examined to assess the relationship among coping strategies, generalized anxiety, depression, and each of the three subtypes of resilience (i.e., individual, relational, contextual). Significant

relationships were observed between individual resilience and behavioral disengagement, generalized anxiety, and depression. Therefore, two additional series of regression analyses were conducted to assess for the potential mediating effect of behavioral disengagement on the relationship between individual resilience and a) symptoms of generalized anxiety, as well as b) symptoms of depression.

The first series of regression analyses revealed that behavioral disengagement partially mediated the relationship between individual resilience and symptoms of generalized anxiety. In Step 1, the total effect of individual resilience on generalized anxiety was significant ($\beta = -.23$, $t(223) = -3.51$, $p = .001$). In Step 2, the total effect of individual resilience on behavioral disengagement was also significant ($\beta = -.22$, $t(223) = -3.29$, $p = .001$). Step 3 also revealed that the total effect of behavioral disengagement on generalized anxiety was significant ($\beta = .28$, $t(222) = 4.33$, $p < .001$). When controlling for the effect of behavioral disengagement, the direct effect of individual resilience on generalized anxiety remained significant ($\beta = -.17$, $t(222) = -2.65$, $p = .009$). Therefore, inclusion of behavioral disengagement accounted for an additional $\beta = .06$, indicating a small univariate effect. A Sobel Test revealed that the indirect effect of individual resilience on generalized anxiety was significant ($z = -2.63$, $p = .008$), indicating that behavioral disengagement partially mediated the relationship between individual resilience and generalized anxiety. See Figures 6 and 7 for path models on this analysis.

The second series of regression analyses revealed that behavioral disengagement partially mediated the relationship between individual resilience and symptoms of depression. In Step 1, the total effect of individual resilience on

depression was significant ($\beta = -.23$, $t(223) = -3.59$, $p < .001$), and in Step 2, the total effect of individual resilience on behavioral disengagement was also significant ($\beta = -.22$, $t(223) = -3.29$, $p = .001$). Step 3 revealed that the total effect of behavioral disengagement on depression was significant ($\beta = .26$, $t(222) = 4.802$, $p < .001$). When controlling for the effect of behavioral disengagement, the direct effect of individual resilience on depression remained significant ($\beta = -.18$, $t(222) = -2.84$, $p = .005$). Therefore, the inclusion of behavioral disengagement accounted for an additional $\beta = .05$, indicating a small univariate effect. A Sobel Test revealed that the indirect effect of individual resilience on depression was significant ($z = -2.55$, $p = .01$), indicating that behavioral disengagement partially mediated the relationship between individual resilience and depression. See Figures 8 and 9 for path models on this analysis.

Secondary Analyses

Hypothesis 4: Maltreatment Type and Internalizing Disorders. A one-way multivariate analysis of covariance (MANCOVA) was conducted to assess whether the different subtypes of childhood maltreatment (IV; emotional abuse and neglect, physical abuse and neglect, sexual abuse, multitype maltreatment) had differential interactions with generalized anxiety (DV₁) and depression symptomology (DV₂) when controlling for overall resilience. The results of the MANCOVA revealed no overall difference between maltreatment subtypes in symptoms of generalized anxiety and depression after controlling for overall resilience (Wilks' Lambda = .98, $F(6, 426) = .86$, $p = .52$, $\eta_p^2 = .012$). As the main effect was not significant, follow-up tests were not conducted.

Hypothesis 5: Gender Differences in Resilience Types. It was predicted that males and females would endorse differing levels of individual, relational, and contextual resilience. Contrary to the hypothesis, no significant differences in resilience emerged between males and females ($r(230) = -.042-.074, p = .27-.79$). Therefore, a MANOVA was not conducted.

Hypothesis 6: SES, Maltreatment, and Internalizing Disorders. It was predicted that family SES during childhood would moderate the relationship between childhood maltreatment severity and symptoms of a) generalized anxiety, as well as b) depression. A preliminary examination of bivariate correlations yielded a significant positive relationship between childhood maltreatment severity and generalized anxiety ($r(227) = .24, p < .001$), as well as depression ($r(230) = .18, p = .007$). Family SES during childhood and maltreatment severity were also significantly related ($r(197) = -.46, p < .001$), indicating that increased maltreatment severity was associated with decreased SES during childhood. However, no significant relationship was present between family SES during childhood and generalized anxiety ($r(189) = -.07, p = .37$) or between family SES during childhood and depression ($r(187) = .04, p = .64$). Given that family SES did not appear to be significantly related to either of the proposed dependent variables, no moderator analyses were conducted.

Exploratory Findings

Additional exploratory analyses were conducted to examine relationships among cultural and contextual variables and the primary variables of interest in this study. Covariates for each analysis were identified by an examination of Pearson product-moment correlations, and demographic variables that emerged as significantly

related to the intended outcome variable for each analysis were added in as covariates. Results are discussed in each of the corresponding sections.

Race. One-way ANOVAs and ANCOVAs were conducted to examine racial differences among the primary variables of interest. Regarding maltreatment, results indicated that childhood maltreatment severity differed significantly by race when controlling for childhood SES ($F(4, 195) = 2.99, p = .02, \eta_p^2 = .06$). Pairwise comparisons revealed that White/Caucasian participants reported significantly greater maltreatment severity compared with Asian participants ($p = .011$). Additionally, multiracial participants also reported significantly greater maltreatment severity when compared with Asian participants ($p = .001$). No other significant differences emerged between groups.

Analyses were also conducted to explore racial differences in overall, individual, relational, and contextual resilience. In terms of overall resilience, no significant differences were observed between racial groups when controlling for childhood SES ($F(4, 190) = 1.08, p = .37, \eta_p^2 = .02$). Regarding individual resilience, results revealed no significant differences in individual resilience based on race when controlling for childhood SES ($F(4, 192) = .32, p = .86, \eta_p^2 = .01$). Similarly, no differences were observed in contextual resilience between racial groups ($F(2, 229) = 1.42, p = .23, \eta^2 = .02$). There were also no significant differences in relational resilience between groups when controlling for childhood SES ($F(4, 192) = 1.64, p = .17, \eta_p^2 = .03$).

Differences in internalizing symptoms between racial groups were also examined. Results yielded no significant differences between groups symptoms of

generalized anxiety ($F(4, 223) = 0.65, p = .62, \eta^2 = .01$) or depression ($F(4, 220) = 1.12, p = .35, \eta^2 = .02$).

Lastly, differences in coping between racial groups were explored. Initial bivariate correlations that emerged as significant were further examined for group differences. Use of emotional social support was the only coping strategy that was significantly correlated with race ($r(226) = -.217, p = .001$). A one-way ANOVA indicated that use of emotional social support differed significantly between groups ($F(4, 221) = 3.02, p = .019, \eta^2 = .05$). However, Tukey HSD tests yielded no significant differences between individual groups, which may be explained, in part, by a lack of statistical power due to both small and unequal group sizes.

Ethnicity. ANCOVAs and independent t-tests were conducted to identify differences in reported maltreatment, coping, resilience, and internalizing disorders between participants who identified as Hispanic and those who identified as non-Hispanic. Regarding maltreatment, results indicated that childhood maltreatment severity did not differ significantly by ethnicity when controlling for childhood SES ($F(1, 196) = .482, p = .49, \eta_p^2 = .002$).

Overall resilience also did not differ significantly between groups when controlling for childhood SES ($F(1, 192) = .157, p = .69, \eta_p^2 = .001$). Accordingly, no significant differences were noted between groups in individual, relational, and contextual resilience when controlling for childhood SES ($p = .53-.97$). In terms of internalizing disorders, groups did not differ significantly in reported symptoms of generalized anxiety ($t(227) = .79, p = .43$) or in reported symptoms of depression ($t(224) = .30, p = .77$).

Bivariate correlations were conducted to assess initial associations between ethnicity and coping, and significant correlations were further examined with independent t-tests. Coping through behavioral disengagement also differed significantly by ethnicity ($t(226) = 2.73, p = .007$). Participants who identified as Hispanic or Latino ($M = 8.83, SD = 2.10$) were significantly more likely to cope through behavioral disengagement when compared to non-Hispanic individuals ($M = 7.38, SD = 2.51$). A one-way ANCOVA revealed that this relationship remained even after controlling for maltreatment severity ($F(1, 225) = 7.25, p = .008, \eta_p^2 = .031$). See Table 11 for additional information.

Gender. One-way ANOVAs and ANCOVAs were used to explore possible relationships between gender (i.e., male, female, non-binary/gender fluid/self-identified “other”) and the primary variables of interest in this study. Results indicated that childhood maltreatment severity differed significantly by gender after controlling for family SES ($F(2, 197) = 4.52, p = .01, \eta_p^2 = .05$). Follow-up tests revealed that individuals who identified as gender fluid or non-binary reported significantly greater maltreatment severity when compared to individuals who identified as male ($p = .008$) or those who identified as female ($p = .003$).

Regarding resilience, no differences were observed in overall resilience across gender groups when controlling for childhood SES ($F(2, 192) = 0.67, p = .51, \eta_p^2 = .01$). Similarly, individual, relational, and contextual resilience did not differ between groups ($p = .24-.91$). Symptoms of generalized anxiety ($F(2, 227) = 1.53, p = .22, \eta^2 = .01$) and symptoms of depression ($F(2, 224) = 2.27, p = .11, \eta^2 = .02$) also did not differ significantly between groups.

Regarding coping, a one-way ANOVA also revealed significantly gender differences in coping through the focus on and venting of emotions ($F(2, 226) = 3.35, p = .037, \eta^2 = .03$). Tukey HSD tests indicated that females ($M = 10.62, SE = .22$) were significantly more likely than males ($M = 9.15, SE = 0.50$) to report focusing on and venting their emotions as a coping strategy ($p = .028$). No other significant differences emerged between groups. See Table 12 for additional information.

Maltreatment Severity and Coping. One-way ANOVAs were conducted to examine the association between maltreatment severity (i.e., low-to-moderate, moderate-to-severe, severe-to-extreme) and the endorsement of coping strategies. Results revealed a significant relationship between maltreatment severity and coping through positive reinterpretation and growth ($F(2, 226) = 3.88, p = .022, \eta^2 = .03$). Tukey HSD tests indicated that participants who reported low-to-moderate maltreatment experiences ($M = 12.23, SE = .22$) were significantly more likely to cope through positive reinterpretation and growth in comparison to participants who reported severe-to-extreme childhood maltreatment experiences ($M = 10.94, SE = .40; p = .024$).

Similar group differences were also observed in the use of emotional social support ($F(2, 225) = 3.48, p = .032, \eta^2 = .03$). Participants who endorsed low-to-moderate maltreatment ($M = 11.30, SE = .31$) were significantly more likely to use emotional social support as a coping strategy in comparison to those who endorsed severe-to-extreme maltreatment ($M = 9.83, SE = .49; p = .05$).

The use of behavioral disengagement also differed significantly by maltreatment severity ($F(2, 226) = 4.81, p = .004, \eta^2 = .04$). Participants who endorsed

moderate-to-severe maltreatment experiences ($M = 8.04$, $SE = .27$) were significantly more likely to cope through behavioral disengagement when compared to participants who reported low-to-moderate maltreatment ($M = 7.00$, $SE = .23$; $p = .012$). Similar differences were also observed in the use of denial between groups ($F(2, 225) = 4.25$, $p = .015$, $\eta^2 = .04$). Rates of denial were significantly higher among those who experienced severe-to-extreme maltreatment ($M = 7.47$, $SE = .48$) in comparison to those who experienced low-to-moderate maltreatment during childhood ($M = 6.09$, $SE = .21$; $p = .020$). Additionally, substance use differed significantly by maltreatment severity ($F(2, 226) = 4.26$, $p = .014$; $\eta^2 = .04$). Individuals who experienced severe-to-extreme maltreatment ($M = 7.31$, $SE = .64$) were significantly more likely to report using substances to cope to in comparison to individuals who reported low-to-moderate maltreatment ($M = 5.68$, $SE = .24$; $p = .012$). Additional information on maltreatment severity and coping strategy differences can be found in Table 13.

Maltreatment Type and Coping. Differences in coping by maltreatment type (i.e., emotional abuse/neglect, physical abuse/neglect, sexual abuse, multitype maltreatment) were also examined via one-way ANOVAs. Results indicated that groups differed significantly in their endorsement of positive growth and reinterpretation ($F(3, 223) = 3.30$, $p = .021$, $\eta^2 = .04$). However, pairwise comparisons with Tukey HSD tests yielded no significant differences between groups, which is likely due to the significantly uneven group sizes.

Groups also differed significantly in their endorsement of denial ($F(3, 222) = 3.45$, $p = .018$, $\eta^2 = .04$). Post hoc analyses with Tukey HSD tests indicated that participants who experienced multitype maltreatment during childhood ($M = 7.07$, SE

= .27) were significantly more likely to report denial as a coping strategy in comparison to participants who experienced only emotional abuse or neglect ($M = 5.89$, $SE = .21$; $p = .009$). No other significant differences in coping were observed between groups.

Maltreatment Severity and Internalizing Disorders. Chi-square tests of independence were conducted to examine the association between maltreatment severity (i.e., low-to-moderate, moderate-to-severe, severe-to-extreme) and reported experiences of mental illness (i.e., yes, no, unsure). Results revealed a significant association between maltreatment severity and a history of mental illness ($\chi^2(4, N=242) = 11.15$, $p = .03$). Specifically, 64.9% ($n=27$) of participants with severe-to-extreme maltreatment experiences reported a personal history of mental health issues in comparison to 41.7% ($n=48$) of individuals with low-to-moderate maltreatment experiences and 55.6% ($n=50$) of individuals with moderate-to-severe maltreatment experiences.

Regarding particular experiences of internalizing disorders, a reported history of an anxiety disorder was significantly associated with maltreatment severity ($\chi^2(2, N=242) = 6.08$, $p = .048$). Of participants who reported severe-to-extreme maltreatment experiences, 59.5% ($n=22$) disclosed histories of an anxiety disorder. Additionally, 41.1% ($n=37$) of participants with moderate-to-severe maltreatment experiences and 36.5% ($n=42$) of participants with low-to-moderate maltreatment experiences reported anxiety disorders. Maltreatment severity and depression were also significantly associated ($\chi^2(2, N=242) = 12.05$, $p = .002$). A history of depression was reported by 62.2% ($n=23$) of participants with severe-to-extreme childhood

maltreatment, 45.6% ($n=41$) of participants with moderate-to-severe maltreatment, and 31.3% ($n=36$) of participants with low-to-moderate maltreatment.

Maltreatment Type and Internalizing Disorders. Chi-square tests of independence were conducted to assess for potential associations between maltreatment type (i.e., emotional abuse/neglect, physical abuse/neglect, sexual abuse, multitype maltreatment) and reported experiences with mental illness. No differences were observed in personal histories of mental illness, experiences with anxiety disorders, or experiences with depressive disorders ($p = .28-.83$).

Maltreatment Severity and Overall Resilience. Based on the initial relationship that emerged between childhood maltreatment severity and overall resilience ($r(234) = -.44, p < .001$), a one-way ANCOVA was conducted to determine whether overall resilience differed significantly based on severity of childhood maltreatment after controlling for generalized anxiety and depressive symptoms. The ANCOVA yielded statistically significant results ($F(2, 215) = 17.75, p < .001, \eta_p^2 = .142$). Post hoc tests with a Bonferroni adjustment for multiple comparisons revealed that low-to-moderate maltreatment experiences ($M_{Resilience} = 112.22, SE = 1.30$) were associated with significantly higher levels of overall resilience when compared to both moderate-to-severe maltreatment experiences ($M_{Resilience} = 102.44, SE = 1.47$) as well as severe-to-extreme maltreatment experiences ($M_{Resilience} = 99.23, SE = 2.30; p < .001$ for both comparisons). There was no significant difference in overall resilience between the moderate-to-severe and severe-to-extreme groups ($p = .72$).

Maltreatment Type and Overall Resilience. A one-way ANCOVA was conducted to assess the relationship between maltreatment type and overall resilience

when controlling for maltreatment severity. The ANCOVA yielded statistically significant results, indicating that overall resilience differed significantly based on the type of maltreatment reported by participants ($F(3, 227) = 3.76, p = .01, \eta_p^2 = .047$). Post hoc tests with a Bonferroni adjustment for multiple comparisons revealed that experiences of multitype maltreatment ($M_{Resilience} = 104.97, SE = 1.35$) were associated with significantly lower levels of overall resilience when compared to experiences of physical abuse or neglect only ($M_{Resilience} = 116.18, SE = 3.49; p = .03$). Experiences of emotional abuse or neglect ($M_{Resilience} = 106.14, SE = 1.62$) were also associated with significantly lower levels of overall resilience when compared to experiences of physical abuse or neglect only ($p = .04$). No other significant differences were noted between groups.

CHAPTER 5

DISCUSSION

The present study is among the first to examine the intersectionality of resilience, coping, and symptoms of internalizing disorders among adults who experienced maltreatment during childhood. Although prior research has consistently demonstrated that some individuals thrive following experiences of abuse and neglect, few studies have examined how resilience interacts with other factors to influence outcomes during adulthood. Specifically, an emerging body of literature has revealed a relationship between resilience and coping in contributing to psychiatric symptomology; however, this association has not been well-studied among maltreated samples (Alim et al., 2008; Ben-David & Jonson-Reid, 2017; Campbell-Sills et al., 2006; Wright et al., 2007). Given that this interaction has been vastly understudied, the current project investigated the influence of both resilience and distinct copings strategies on internalizing symptoms in maltreated individuals to better understand the pathway from maltreatment to psychological difficulties.

Maltreatment and Depression: The Role of Resilience

As predicted, results indicated that overall resilience buffered the relationship between childhood maltreatment severity and depressive symptoms, and this effect was most pronounced for individuals who endorsed high levels of resilience. Specifically, highly resilient participants displayed comparable levels of depression, regardless of the severity of their maltreatment experiences during childhood. In contrast, individuals who demonstrated low levels of resilience in conjunction with higher maltreatment severity reported the most severe depressive symptoms.

Additionally, while differences in overall resilience contributed to varying depression symptomology at high levels of maltreatment, the same effect was not observed at low levels of maltreatment. These findings align with a growing body of research that has provided support for the influence of protective factors on the relationship between childhood trauma and depressive symptoms later in life (Anan & Hjemdal, 2016; Dale et al., 2015; Ding et al., 2017; Metel et al., 2019; Poole, Dobson, & Pusch, 2017; Seok et al., 2012; Wingo et al., 2010). The present results also suggest that resilience may have the strongest protective influence against depressive symptoms at higher levels of maltreatment. This denotes a meaningful addition to existing literature, indicating that the beneficial effect of protective factors may be most impactful in the long-term for individuals who have experienced more severe abuse and neglect during childhood.

In contrast to the buffering effect of resilience on depressive symptoms, the same association was not observed between resilience, maltreatment, and generalized anxiety. Specifically, although lower levels of overall resilience predicted greater symptoms of generalized anxiety, maltreatment severity alone was not a predictor of generalized anxiety symptoms. The absence of a relationship between maltreatment severity and generalized anxiety is surprising, as the association between childhood maltreatment and anxiety symptoms has been well-substantiated in the literature (e.g., Brown, Fite, Stone, & Bortolato, 2016; Cogle, Timpano, Sachs-Ericsson, Keough, & Riccardi, 2010; Gilbert et al., 2009). However, some research seems to suggest that although anxiety and depression are closely linked, they may have differing developmental pathways when considered within the context of stressors and resilience (Anyan & Hjemdal, 2016). Specifically, a study on stress in adolescents by

Anyan and Hjemdal (2016) produced findings similar to the present study, finding that although resilience moderated the effect of stress on depressive symptoms, it did not moderate the effect of stress on anxiety symptoms. Presently, research on this topic is negligible and factors leading to these differing relationships are poorly understood. More research is needed to substantiate this finding and to delineate the mechanisms contributing to the differential associations observed between resilience and these two clusters of internalizing symptoms.

Several additional factors are important to taken into consideration. First, among mental health disorders, the lifetime prevalence rate for anxiety disorders is approximately 33.7%, making it the most commonly reported and diagnosed mental illness in the United States (Bandelow & Michaelis, 2015). Factors contributing to the onset and maintenance of anxiety symptoms are numerous and varied, ranging from genetics to environmental influences (American Psychiatric Association, 2013). Therefore, it is possible that other factors, which were not considered in the present study, contribute more significantly to the development and onset of anxiety symptoms than maltreatment severity.

The measure that was utilized to assess generalized anxiety symptoms may have also limited the current study. Symptoms of anxiety were evaluated through items on the GAD-7, which is a brief measure that is intended to be used as a screening tool. Although this measure was chosen deliberately in order to increase the likelihood that participants would respond fully and attentively throughout the survey, it is possible that the brief nature of the measure failed to fully capture the experiences of participants. Additionally, it is important to note that the GAD-7 only asks

respondents to report their experiences “over the past two weeks,” which may have hindered its ability to detect broader and more overarching symptoms of anxiety that occur over time.

Resilience, Behavioral Disengagement, and Internalizing Symptoms

A significant contribution of the current study was the examination of how resilience and coping interact to contribute to psychopathology following experiences of childhood trauma. Among the coping strategies examined, behavioral disengagement emerged as the only strategy that influenced the relationship between overall resilience and symptoms of internalizing disorders. This finding corresponds with a meta-analysis of coping strategy literature, which revealed that while avoidant coping strategies were significantly related to increased psychological distress following traumatic experiences, active or approach coping strategies did not share the same association (Littleton et al., 2007). Similarly, other studies have shown that avoidant and passive forms of coping, but not active forms of coping, are significant predictors of depression and anxiety in community samples (Mahmoud, Staten, Hall, & Lennie, 2012; Roohafza et al., 2014).

In the present study, behavioral disengagement did not significantly influence the association between overall resilience and internalizing symptoms. However, results demonstrated a trend, suggesting that behavioral disengagement may impact the association between resilience and symptoms of generalized anxiety ($p = .076$) and depression ($p = .079$). The trend for behavioral disengagement to weaken the association between resilience and internalizing symptoms aligns with prior research, which has found that coping strategies rooted in avoidance are often linked to lower

levels of resilience and greater reports of anxiety, depression, and posttraumatic stress (Arslan, 2017; Littleton et al., 2007; Milojevich, Russel, & Quas, 2018; Seiffge-Krenke & Klessinger, 2000; Thompson et al., 2018). For example, in a sample of individuals with posttraumatic stress disorder, Thompson and his colleagues (2018) observed a negative relationship between resilience and avoidant coping strategies, such as social withdrawal and denial. Additionally, this research found that avoidant strategies were associated with increased symptoms of posttraumatic stress and decreased reports of resilience. Other studies have yielded comparable findings in maltreated individuals, linking the long-term effects of avoidant coping strategies to higher levels of depressive symptoms and other mental health problems during both adolescence and adulthood (Arslan, 2017; Milojevich et al., 2018).

Although results with overall resilience were not significant, findings indicated that behavioral disengagement partially mediated the relationship between individual resilience and symptoms of both anxiety and depression. Specifically, lower levels of individual resilience predicted greater endorsement of behavioral disengagement, which partially explained the relationship between low individual resilience and heightened internalizing symptoms. This finding is noteworthy, because it offers evidence that individual-level factors (e.g., personal skills, social skills, as assessed by the CYRM-28) may uniquely contribute to the selection of coping strategies. Prior research in this domain is negligible, but encouraging, as several studies have demonstrated similar relationships across samples (Min, Yu, Lee, & Chae, 2013; Tan-Kristanto & Kiropoulos, 2015). In particular, recent research by Tan-Kristanto and Kriopolous (2015) found that low endorsement of personal competence, an indicator

of individual resilience, was associated with heightened reports of avoidance coping, which was predictive of increased depressive symptoms in a sample of individuals with multiple sclerosis. Although research on this topic is in its infancy, the association between individual resilience, coping, and internalizing symptoms has significant implications for intervention among maltreated youth, as it suggests that lower levels of individual resilience may directly contribute to more maladaptive coping strategies, such as behavioral disengagement. Therefore, treatment focused on increasing perceived competence and self-esteem may be most beneficial for protecting against internalizing symptomology later in life.

Cumulatively, research suggests that avoidance-based coping strategies appear to increase vulnerability to psychiatric symptomology following traumatic experiences, although most existing research has focused exclusively on posttraumatic stress disorder and has examined avoidant coping strategies as a unified cluster rather than as separate strategies. The current study contributes to this body of literature by offering evidence that the relationship between trauma, coping, and psychopathology may extend beyond posttraumatic stress to internalizing symptoms, such as generalized anxiety and depression. Furthermore, although avoidant coping has been broadly linked to decreased resilience and increased psychiatric sequelae, the present findings suggest that behavioral disengagement, in particular, may meaningfully impact the relationship between resilience and internalizing symptoms among individuals who have experienced childhood maltreatment.

Gender Differences in Resilience

Contrary to our hypothesis, results indicated no significant differences in

overall resilience between genders. Additionally, no differences emerged between groups in individual, relational, or contextual resilience. These findings contradict some studies, which have demonstrated higher levels of resilience in females when compared to males (Ben-David & Jonson-Reid, 2017; DuMont et al., 2007). However, there are several notable factors that may have contributed to the present findings. First, the current study included an unequal number of males ($n = 36$) and females ($n = 200$), as well as very few individuals who identified as non-binary or gender fluid ($n = 6$). Although it is unknown whether more equivalent sample sizes may have yielded differing results, it deserves acknowledgement.

Secondly, at present, there is no universal standard for measuring resilience, and studies vary greatly in the way this construct is operationalized and measured (e.g., Ben-David & Jonson-Reid, 2017; DuMont et al., 2007; Maples, Park, Nolen, & Rosen, 2014; Topitzes, Mersky, Dezen, & Reynolds, 2013). While some studies rely on well-validated resilience measures, other studies assess resilience in a more qualitative and subjective manner, using homegrown measures or measures of general adjustment across domains. Even assessment tools that have been designed specifically to measure resilience differ substantially in their approach (Windle, Bennett, & Noyes, 2011). A methodological review of resilience measurement scales by Windle and colleagues (2011) reported no “gold standard” among resilience measures and found that nearly all of the 19 scales that were reviewed required additional validation studies and a sounder theoretical basis. Given that the lack of uniformity in measurement across studies may have contributed to the discrepant findings, future research in this area will benefit from a more thorough examination of

the particular resilience factors that contribute to post-maltreatment functioning across gender groups throughout the lifespan.

Internalizing Symptoms by Maltreatment Type

Contrary to our hypothesis, the current study found that symptoms of generalized anxiety and depression did not differ based on the type of maltreatment experienced by participants (i.e., emotional abuse/neglect; physical abuse/neglect; sexual abuse; multitype maltreatment). Previous literature on mental health and maltreatment has indicated that internalizing symptoms appear in heightened rates among individuals who have experienced emotional abuse and neglect, while externalizing symptoms emerge more frequently in individuals who have experienced physical forms of maltreatment (Arata et al., 2007; Cecil et al., 2017; Cui & Liu, 2018; Van Vugt et al., 2014). However, other studies have yielded more equivocal findings, suggesting that the nature and extent of internalizing symptomology is challenging to parse apart by maltreatment type due to the fact that most maltreated children experience multiple forms of abuse and neglect (Collin-Vezina et al., 2011; Higgins & McCabe, 2001; Vachon, Krueger, Rogosch, & Cicchetti, 2015).

Although the association between internalizing symptoms and maltreatment is irrefutably influenced by multiple factors, the present results may be partially explained by the unequal sample sizes across groups. The majority of participants (54.6%, $n = 114$) endorsed multitype maltreatment, and 36.7% ($n = 80$) endorsed only emotional abuse or neglect. Very few participants endorsed only physical abuse or neglect (6.4%, $n = 14$) or sexual abuse (2.3%, $n = 5$). When considering both reported and unreported cases of maltreatment in the United States, this distribution aligns with

existing research from national surveys, which has consistently indicated that an overwhelming majority of maltreated children endure multiple forms of abuse and neglect (CDC, 2014; Negele et al., 2015). Indeed, it may be more fruitful to investigate the association between the specific type of multitype maltreatment (e.g., physical abuse in conjunction with emotional abuse; sexual abuse in conjunction with emotional abuse, etc.) and internalizing symptoms in order to identify whether particular combinations of maltreatment types are associated with increased rates of internalizing symptoms. Future research aiming to replicate the present analyses will benefit from using purposive sampling to recruit an equal number of participants across all types of maltreatment.

Socioeconomic Status

Although individuals from lower SES homes during childhood endorsed higher levels of maltreatment severity, SES alone was not associated with either generalized anxiety or depressive symptoms. The association between SES and maltreatment is perhaps expected, as previous research has continuously identified increased rates of maltreatment severity among children from low SES homes and disadvantaged neighborhoods (Drake et al., 2009; Morris et al., 2019; Slack et al., 2011). Across studies, poverty, eviction, and participation in federal and state food assistance programs have all been associated with increased reports of child abuse and neglect.

The absence of a relationship between SES and internalizing symptoms contradicts our hypothesis and opposes previous research, which has indicated heightened rates of both mental and physical health problems among individuals from

economically disadvantaged homes during childhood (Nikulina, Widom, & Czaja, 2011; Patel & Kleinman, 2003; Yoshikawa, Aber, & Beardslee, 2012). Children who live in poverty often face additional environmental stressors, such as food insecurity, parental substance abuse, and increased exposure to violence, all of which place these youth at risk for poorer mental health outcomes (Nikulina et al., 2011; Yoshikawa et al., 2012). However, there are several probable explanations for this unexpected finding. First, because participants were asked to recall their family's income during childhood, it is possible that their recollections were inaccurate, as it is reasonable to assume that children may be unaware of their family's exact financial status. Notably, although all participants responded to the survey item inquiring about childhood family income, 45 participants (18.6%) reported that they "did not know" their family's annual income during their childhood. Given this, a secondary attempt was made to calculate approximate childhood socioeconomic status using the Hollingshead (1975) four factor index, which incorporates information on parental marital status, employment status, education level, and occupational prestige during participants' childhood (defined as when participants were less than 18 years old). However, as the parental occupational prestige variable was missing a notable amount of data ($n = 42$; 17.4%) which would have resulted in a sample size similar to the one when using the original variable, it was determined that the original childhood family income variable would be sufficient for analyses. Researchers interested in exploring this topic in the future will benefit from strengthening their data collection techniques to include multiple indicators of socioeconomic status rather than relying solely on participant self-report.

The federal poverty guideline is also worthy of consideration related to the present findings. According to the U.S. Department of Health and Human Services (2019), the federal poverty guideline was identified as \$25,750 per year for a family of four, and this guideline has been increasing steadily each year. In the present study, only 9.1% of participants reported a family income below \$25,000 during childhood, and nearly half of participants (44.3%) reported a family income of \$50,000 or more. As such a small proportion of the sample reported living in impoverished households during childhood and the majority of individuals came from middle-to-upper class households, this may have hindered the ability to detect a relationship between SES and internalizing symptomology. Future studies can improve existing knowledge about the association between maltreatment, family poverty, and internalizing symptoms by using stratified sampling to recruit participants from varying socioeconomic backgrounds.

Additional Findings

Additional findings emerged across groups in this study. Notable findings are discussed in each corresponding section.

Race. Participants who identified as White, as well as participants who identified as multiracial, endorsed greater childhood maltreatment severity compared to those who identified as Asian, even after accounting for childhood SES. However, several factors may have contributed to this association, including the small number of self-identified Asian participants ($n = 9$), cultural differences in what is regarded as abuse, and the underreporting of childhood maltreatment experiences. Although an in-depth examination of the factors contributing to racial differences in maltreatment

experiences extends beyond the scope of the present study, future research is needed to elucidate the nature of this association.

Ethnicity. Participants who identified as Hispanic or Latino were significantly more likely to report using behavioral disengagement as a coping strategy in comparison to non-Hispanic participants, and this relationship persisted even after accounting for childhood maltreatment severity. Prior research on this topic is negligible; however, a small body of literature on cultural differences in coping has indicated that Hispanic individuals are more likely to endorse avoidant coping strategies when compared to other ethnic groups, which has been associated with greater reports of anxious and depressive symptoms in Latino individuals (Crockett, Iturbide, Stone, McGinley, Raffaelli, & Carlo, 2007; Gudino, Stiles, & Diaz, 2018; Vaughn & Scott, 2003). Although the present study was limited by the small number of individuals who identified as Hispanic or Latino ($n = 24$), future research may contribute to existing knowledge of this topic by investigating cultural differences in coping among maltreated individuals.

Gender. Although no gender differences emerged across many of the primary variables in this study, participants who identified as non-binary or gender fluid reported significantly more severe experiences of childhood maltreatment when compared to self-identified males as well as self-identified females. Though the analysis that generated this finding was exploratory in nature and no inferences may be drawn from this due to the small number of participants who identified as non-binary, it is worth acknowledging, as few studies, if any, have investigated the interaction between non-binary gender identity and childhood maltreatment

experiences. Future research may strengthen the understanding of the association between gender identity and childhood maltreatment by recruiting diverse samples and utilizing a more inclusive definition of “gender” that includes non-binary, gender fluid, and transgender options.

Regarding differences in coping, results indicated that females were more likely than males to report focusing on and venting their emotions as a coping strategy. This corroborates previous literature, which has indicated that women are more likely to use coping strategies that are emotion-oriented and rooted in support-seeking (Jenzer, Read, Naragon-Gainey, & Prince, 2019; Kelly et al., 2008; Matud, 2004). However, these findings are often used to contextualize and explain the heightened rates of anxiety and depression observed in women, as emotion-oriented strategies have been linked to poorer psychological outcomes and greater reports of psychiatric symptomology (Kelly et al., 2008; Matud, 2004). In contrast, the present study found no significant gender differences in reported symptoms of anxiety and depression, despite the fact that women were more likely to endorse emotion-based coping strategies. Although these results must be considered in light of unequal sample sizes, it suggests that the relationship between coping, gender, and psychopathology is vastly complex and may differ across situations. Further research investigating the interaction of gender and coping among maltreated individuals is sorely needed in order to illuminate the nature of the association between these factors.

Maltreatment Severity and Type. Regarding coping strategies, participants who experienced low-to-moderate maltreatment were more likely to cope through positive reinterpretation and growth, as well as through emotional social support,

when compared to individuals who reported severe-to-extreme maltreatment during childhood. Conversely, those who experienced severe-to-extreme maltreatment more commonly endorsed denial and substance abuse as coping strategies compared to their low-to-moderately maltreated counterparts. Relatedly, participants who reported moderate-to-severe childhood maltreatment were more likely to endorse behavioral disengagement when compared to those who experienced low-to-moderate maltreatment.

Cumulatively, the above findings support the theory that the degree of severity of the stressor, as well as the appraisal of its controllability, may play a role in determining the coping strategies used in particular situations (Folkman & Moskowitz, 2004; Littleton et al., 2007; Thompson et al., 2018). At low levels of maltreatment, children may be more apt to minimize their experiences or believe that the abuse or neglect is within their control. The current results indicate that less severe experiences of maltreatment seem to be associated with greater reports of what are commonly believed to be more adaptive forms of coping, such as positive reinterpretation and growth. In contrast, as the severity of maltreatment increases, individuals appear to seek out coping strategies that are often considered maladaptive and associated with poorer functioning over time. Severely maltreated children may appraise their ability to control the abuse or neglect as minimal, thus leading them to turn to coping strategies focused on escape and avoidance. Given that the efficacy of particular coping strategies depends partly on the stressor and the way it is appraised by the individual (see Elzy, Clark, Dollard, & Hummer, 2013; Folkman & Moskowitz,

2004), additional studies on this topic are warranted to test the relationship between appraised controllability and coping among maltreated individuals.

Maltreatment severity was also positively associated with reported experiences of mental illness, including both anxiety and depressive disorders. The highest rates of mental illness (64.9%) were endorsed by participants who experienced severe-to-extreme maltreatment. These individuals were also the most likely to report histories of anxiety disorders (59.5%) and depressive disorders (62.2%). However, across all levels of maltreatment severity in the current study, rates of both anxiety disorders (36.5 to 59.5%) and depressive disorders (31.3 to 62.2%) were higher than is observed in the general population, where lifetime prevalence rates for anxiety and depressive disorders are 33.7% and 19.2%, respectively (Bandelow & Michaelis, 2015; Kessler & Bromet, 2013). Despite the differences that were observed by maltreatment severity, reported rates of internalizing disorders did not differ by maltreatment type, which may be due, in part, to unequal sample sizes across groups.

Overall resilience was notably higher in individuals who experienced low-to-moderate maltreatment during childhood compared to those who experienced either moderate-to-severe and severe-to-extreme maltreatment, and this difference persisted even after accounting for symptoms of both generalized anxiety and depression. Considering the fact that heightened experiences of abuse and neglect often coexist with other adverse childhood experiences that may detract from overall resilience, these findings are perhaps unsurprising (Bellis et al., 2018; Radcliff, Crouch, Strompolis, & Srivastav, 2019). Future research on this topic is needed in order to

parse the specific risk factors and co-occurring adverse experiences that may be contributing to poorer outcomes among severely maltreated individuals.

Differences in overall resilience were also observed by maltreatment type, such that experiences of multitype maltreatment and experiences of only emotional abuse or neglect were both associated with significantly lower levels of overall resilience in comparison to participants who experienced only physical abuse or neglect. Existing trauma literature has consistently indicated that individuals who experience multitype maltreatment often display the poorest outcomes both during childhood and across the lifespan (e.g., Cecil et al., 2017; Higgins & McCabe, 2001; Wu et al., 2010). Therefore, decreased levels of overall resilience among individuals who experienced multitype maltreatment in comparison to their singly maltreated counterparts both supports and aligns with prior research on this topic. Additional research is needed in order to better understand the nuanced factors that contribute to differing resilience associated with experiences of multitype versus single-type maltreatment.

Limitations

Assessment measures. Although the present study offers a rich contribution to existing trauma literature, there are several limitations that are worthy of discussion. First, all data collected in this study required the self-report of participants, and questions targeted potentially sensitive issues, such as trauma, depression, and anxiety, which may have caused participants to respond defensively or underreport their symptoms and experiences. Additionally, although reliable and well-validated, the CYRM-28 is a relatively new measure of resilience and thus has not been used as frequently in clinical and applied research as other resilience measures.

The retrospective nature of the CTQ is another limitation of the current study. Given that childhood maltreatment was assessed using a retrospective measure, it is possible that participants' recollections of their experiences were biased or inaccurate. Furthermore, the minimum threshold for maltreatment severity (CTQ Total Score $\geq$ 30) is relatively low, at only five points above the minimum score on the CTQ, likely making this form of scoring highly sensitive but less specific to true cases of substantiated childhood maltreatment. Nearly half of participants (47.5%) in this study endorsed low-to-moderate maltreatment experiences (*Mode* = 30, *Mdn* = 41), so the present results may not be generalizable to individuals who experienced more severe or extreme cases of maltreatment during childhood.

Regarding internalizing symptomology, both the CES-D and the GAD-7 were designed to be used as screeners and are not intended to be used as diagnostic tools for major depressive disorder or generalized anxiety disorder. Therefore, it is important to acknowledge that the present study assessed for the quality and severity of anxious and depressive symptoms, rather than the definitive presence or absence of a clinical disorder. This distinction is important, as future research that explores this topic using clinically diagnostic cut-offs may yield differing results.

Sampling and data collection. Generalizability of the present findings is limited by the homogeneous nature of the sample. The majority of participants were White, non-Hispanic females, and males, as well as racial and ethnic minority populations, were underrepresented. Regarding analyses related to gender, the current study was weakened by unequal sample sizes. There was a significantly greater number of females in comparison to males, and there were very few individuals who

identified as gender fluid, transgender, or non-binary. Given that previous research has indicated that marginalized and minority individuals face additional and unique societal challenges that may compound experiences of abuse and neglect, recruiting a more diverse sample may be useful for illuminating further differences between maltreated individuals (Andrews, Lopez, Snyder, Saunders, & Kilpatrick, 2019; Bockting, Miner, Romine, Hamilton, & Coleman, 2013; Reisner, Katz-Wise, Gordon, Corliss, & Austin, 2016; Valentine & Shipherd, 2018).

The cross-sectional design also limits the generalizability of this study and prevents the ability to draw casual inferences from the findings. Participants were asked to report both on childhood experiences of trauma, as well as current coping strategies, potential protective factors, and psychiatric symptomology over the past several weeks. Therefore, although this study provides a meaningful foundation for exploring the interaction among these variables and how outcomes may differ during adulthood, future research on this topic may benefit by recruiting a sample of maltreated children in order to assess the interplay of these factors in the immediate aftermath of abuse and neglect.

The use of online recruitment and data collection is another limitation of the current study. Although collecting data online is beneficial for accessing individuals from varying geographic regions who may not otherwise have been able to participate, using this method of data collection excluded individuals who do not have Internet access, those who do not read English, and those who may feel uncomfortable using computers (e.g., the elderly). Additionally, given that the majority of the questions on

the survey were presented in a Likert-scale format, inattentiveness or response bias is also important to consider.

Lastly, issues with non-normality and inadequate internal consistency may have also impeded the present study. Several variables did not meet assumptions of normality required for the primary analyses and were therefore transformed. However, the transformation of data introduces the possibility of error, which further limits the generalizability of these findings. Additionally, two of the coping strategy variables (mental disengagement and suppression of competing activities) were unable to be included in any analyses due to poor reliability. In the future, including additional measures of coping will be beneficial for providing a more comprehensive assessment of coping strategies and ensuring that all strategies are able to be considered for inclusion in the primary analyses.

Clinical Implications and Future Directions

The importance of research investigating risk and protective factors associated with long-term outcomes following childhood maltreatment cannot be overstated. The present study deepens existing knowledge about the association between maltreatment and internalizing disorders by illuminating the contribution of coping strategies and resilience to this relationship. Specifically, the current findings indicate that avoidant coping strategies, such as behavioral disengagement, may weaken the protective effect of resilience against internalizing symptoms. Although further research is needed to substantiate this association, this finding suggests that interventions targeting the development of adaptive coping strategies may offer maltreated children the greatest opportunity to thrive following experiences of abuse and neglect. Adaptive coping

strategies, in conjunction with other individual, relational, and contextual resilience factors, will likely be most efficacious in protecting against internalizing symptomatology. However, because existing literature is largely inconclusive regarding which coping strategies are most adaptive when coping with maltreatment experiences, future research focused on identifying these strategies may be useful for bolstering positive outcomes for this population.

The current results also suggest that a combination of protective factors ranging from the individual to community level is more beneficial in protecting against internalizing symptoms than any single factor alone. Findings revealed that although overall resilience appeared to influence the relationship between maltreatment and psychopathology, no discernible differences were observed for each individual ecological construct (i.e., individual, relational, contextual factors). Therefore, interventions aimed at increasing resilience among individuals who have experienced abuse and neglect may yield the strongest impact by adopting a holistic approach that focuses on enhancing supportive factors at home, at school, and within the greater community.

The present study found that overall resilience, as assessed by the CYRM-28, was most influential in protecting against the deleterious effects associated with childhood maltreatment. Accordingly, it will be beneficial for future research to focus on delineating the multiple protective factors that contribute to resilience among individuals who have experienced trauma in order to provide a direction for intervention and public policy geared toward child abuse and neglect. Future studies on this topic may benefit from critically assessing both individual-level and

community-level factors in order to determine their respective influence on outcomes following childhood maltreatment.

Researchers wishing to expand this line of research should consider a longitudinal approach to examine how coping strategies and indicators of resilience contribute to the psychological sequelae of trauma over time. The cross-sectional nature of the present study is a significant limitation that impedes the ability to draw causal inferences from any of the findings. Given the fact that both resilience and coping are regarded as dynamic constructs, a longitudinal design has the possibility of offering a richer understanding of the interaction between coping and resilience within the context of childhood maltreatment, which will be useful for promoting adaptive development across the lifespan in this group of individuals.

Lastly, there is a critical need for research that explores the interplay of coping strategies and resilience among children from minority groups. Although several findings emerged in the present study related to minority populations, minority individuals were vastly underrepresented, which limits the generalizability of these results. Environmental stressors, as well as coping strategies and protective factors associated with adaptive functioning, often differ across groups (*see* Andrews et al., 2019; Crockett et al., 2007; Schmitz & Tyler, 2019; Vaughn & Roesch, 2003), necessitating more targeted research that explores the unique experiences of maltreated individuals from minority groups. Ultimately, the need for research in this domain is significant, and the implications for early intervention and public policy have the potential to impact the lives of countless youth affected by abuse and neglect.

TABLES

Table 1. *Demographic Characteristics of Sample*

<i>Variable</i>	<i>N (%)</i>
Mean Age (<i>SD</i>)	29.12 (12.92)
Gender	
Male	36 (14.9%)
Female	200 (82.6%)
Non-Binary	4 (1.7%)
Gender Fluid	1 (0.4%)
Did not identify	1 (0.4%)
Race	
White/Caucasian	203 (83.9%)
Black/African American	10 (4.15%)
Asian	10 (4.1%)
Native American/Alaskan Native	-
Native Hawaiian/Pacific Islander	-
Multi-racial	13 (5.4%)
Other	4 (1.7%)
Did not identify	2 (0.8%)
Ethnicity	
Hispanic or Latino	24 (9.9%)
Not Hispanic or Latino	216 (89.3%)
Did not identify	2 (0.8%)
Marital Status	
Single, never married	160 (66.1%)
Married or domestic partnership	62 (25.6%)
Widowed	2 (0.8%)
Divorced	17 (7.0%)
Separated	1 (0.4%)
Highest Level of Education	
Less than high school	1 (0.4%)
High school graduate (incl. equivalency)	27 (11.2%)
Some college, no degree (incl. current students)	122 (50.4%)
Associate's degree	23 (9.5%)
Bachelor's degree	40 (16.5%)
Graduate or professional degree	29 (12.0%)
Employment Status	
Work full-time (35+ hrs/wk)	72 (29.8%)
Work part-time (<35 hrs/wk)	54 (22.3%)
Student	83 (34.3%)
Not working, but seeking employment	7 (2.9%)
Not working and not seeking employment	7 (2.9%)
Other	19 (7.9%)

Note. N = 242. SD = Standard Deviation.

Table 2. *Participant and Family History of Mental Health Issues*

<i>Variable</i>	<i>N (%)</i>	
Reported a personal history of MH issues?		
	Yes	122 (50.4%)
	No	93 (38.4%)
	Unsure	27 (11.2%)
Type of MH Issues Reported		
	Anxiety Disorder	101 (41.7%)
	Depressive Disorder	100 (41.3%)
	Bipolar Disorder	11 (4.5%)
	Schizophrenia/Schizoaffective Disorder	---
	Personality Disorder	6 (2.5%)
	Attention Deficit/Hyperactivity Disorder	23 (9.5%)
	Substance Use Disorder	7 (2.9%)
	Posttraumatic Stress Disorder	17 (7.0%)
	Eating Disorder	23 (11.6%)
	Oppositional Defiant Disorder or Conduct Disorder	---
	Autism Spectrum Disorder	3 (1.2%)
	Tic Disorder	4 (1.7%)
	Other	6 (2.5%)
Formally diagnosed with mental health disorder?		
	Yes	106 (43.8%)
	No	16 (6.6%)
Sought professional help for MH issues?		
	Yes	115 (47.5%)
	No	7 (2.9%)
Family members with MH issues?		
	Yes	161 (66.5%)
	No	81 (33.5%)

Note. N = 242. MH = Mental Health.

Table 3. *Descriptive Information for Childhood Maltreatment by Severity*

<i>Maltreatment Classification</i>	<i>N (%)</i>			
	<i>Overall Sample (N=242)</i>	<i>Males (n=36)</i>	<i>Females (n=200)</i>	<i>Non-Binary (n=6)</i>
Low-to-Moderate Maltreatment	115 (47.5%)	16 (44.4%)	98 (49.0%)	1 (16.7%)
Moderate-to-Severe Maltreatment	90 (37.2%)	14 (38.9%)	73 (36.5%)	3 (50.0%)
Severe-to-Extreme Maltreatment	37 (15.3%)	6 (16.7%)	29 (14.5%)	2 (33.3%)

Note. N=242.

Table 4. *Descriptive Information for Childhood Maltreatment by Type*

<i>Maltreatment Type</i>	<i>N (%)</i>			
	<i>Overall Sample (N=242)</i>	<i>Males (n=36)</i>	<i>Females (n=200)</i>	<i>Non-Binary (n=6)</i>
Emotional Abuse/Neglect	88 (36.4%)	6 (16.7%)	81 (40.9%)	1 (16.7%)
Physical Abuse/Neglect	16 (6.2%)	4 (11.1%)	10 (5.1%)	1 (16.7%)
Sexual Abuse	6 (2.5%)	-	6 (3.0%)	-
Multitype Maltreatment	131 (54.1%)	26 (72.2%)	101 (51.0%)	4 (66.7%)

Note. N=242.

Table 5. *Descriptive Information for All Scales*

<i>Scale</i>	<i>M (SD)</i>	<i>Possible Range</i>	<i>Skewness</i>	<i>Kurtosis</i>
Overall Maltreatment Severity	46.94 (17.44)	25-125	1.44	1.86
Emotional Abuse	11.69 (5.10)	5-25	0.92	0.18
Physical Abuse	7.73 (4.58)	5-25	2.24	4.60
Sexual Abuse	7.17 (4.95)	5-25	2.38	4.53
Emotional Neglect	12.10 (4.64)	5-25	0.65	-0.06
Physical Neglect	8.24 (3.43)	5-25	1.43	2.51
Generalized Anxiety Symptoms	17.03 (6.33)	0-21	0.18	-1.07
Depressive Symptoms	44.13 (9.70)	20-80	0.27	-0.34
Overall Resilience	106.49 (14.57)	28-140	-0.26	-0.16
Individual Resilience	44.95 (5.67)	11-55	-0.54	2.76
Relational Resilience	26.38 (5.42)	7-35	-0.70	-0.04
Contextual Resilience	35.25 (6.07)	10-50	0.08	-0.48
Positive Reinterpretation & Growth	11.81(2.53)	4-16	-0.30	-0.46
Mental Disengagement ⁺	10.50 (2.31)	4-16	-0.17	-0.12
Active Coping	10.53 (2.35)	4-16	-0.18	0.00
Instrumental Social Support	10.60 (3.05)	4-16	-0.37	-0.53
Behavioral Disengagement	7.53 (2.50)	4-16	0.61	0.18
Emotional Social Support	10.75 (3.25)	4-16	-0.32	-0.61
Focus on & Venting of Emotions	10.39 (3.09)	4-16	0.10	-0.71
Denial	6.56 (2.64)	4-16	1.17	1.08
Religious Coping	6.94 (3.74)	4-16	1.08	-0.05
Humor	10.02 (3.63)	4-16	-0.04	-1.01
Restraint	9.61 (2.33)	4-16	0.09	0.01
Substance Use	6.17 (2.98)	4-16	1.42	1.23
Acceptance	10.82 (2.56)	4-16	0.10	-0.24
Suppression of Competing Activities ⁺	9.41 (2.28)	4-16	0.08	-0.20
Planning	11.00 (2.77)	4-16	-0.21	-0.42

Note. N = 242. M = Mean. SD = Standard Deviation. ⁺Not included in further analyses due to poor reliability.

Table 6. *Correlation Matrix of Primary Variables of Interest*

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>
1. Maltreatment Severity	-	.18**	.24***	-.44***	-.32***	-.52***	-.26***	-.20**	-.07	-.19**	.17*	-.20**	-.01	.15*	-.04	.02	.16*	.18**	.14*	-.15*
2. Generalized Anxiety	.18**	-	.72***	-.22**	-.24***	-.18**	-.17*	.03	.04	.06	.32***	.04	.34***	.34***	.09	.08	.03	.23*	.18**	.00
3. Depression	.24***	.72***	-	-.27***	-.23***	-.23**	-.20**	.04	.07	.06	.31***	.01	.29***	.31**	.06	.15*	.12	.30***	.23***	.03
4. Overall Resilience	-.44***	-.22**	-.27***	-	.86***	.83***	.86***	.33***	.37***	.32***	-.13*	.33***	-.01	0.02	.28***	.04	.04	-.08	-.07	.31***
5. Ind. Resilience	-.32***	-.24***	-.23***	.86***	-	.58***	.61***	.36***	.42***	.29***	-.22**	.34***	-.01	-.09	.07	.12	.05	-.13	.00	.35***
6. Rel. Resilience	-.52***	-.18**	-.23**	.83***	.58***	-	.56***	.26***	.21**	.29***	-.10	.33***	.06	-.03	.12	-.02	-.05	-.04	-.11	.15*
7. Context. Resilience	-.26***	-.17*	-.20**	.86***	.61***	.56***	-	.21**	.28***	.20**	-.01	.17*	-.05	.06	.50***	.00	.10	-.03	-.07	.28***
8. Pos. Reint./Growth	-.20**	.03	.04	.33***	.36***	.26***	.21**	-	.45***	.32***	-.08	.27***	.08	.05	.03	.37***	.26***	-.07	.41***	.49***
9. Active Coping	-.07	.04	.07	.37***	.42***	.21**	.28***	.45***	-	.43***	-.09	.37***	.17*	-.03	.14*	.28***	.39***	.02	.36***	.73***
10. Inst. Social Support	-.19**	.06	.06	.32***	.29***	.29***	.20**	.32***	.43***	-	.06	.79***	.43***	.09	.06	.14*	.25***	.10	.16*	.47***
11. Bx Disengagement	.17*	.32***	.31***	-.13*	-.22**	-.10	-.01	-.08	-.09	.06	-	.03	.30***	.55***	.10	.14*	.22**	.29***	.18**	-.15*
12. Emo. Social Support	-.20**	.04	.01	.33***	.34***	.33***	.17*	.27***	.37***	.79***	.03	-	.55***	-.04	.02	.07	.20**	.08	.10	.40***
13. Focus/Vent Emotions	-.01	.34***	.29***	-.01	-.01	.06	-.05	.08	.17*	.43***	.30***	.55***	-	.16*	.04	.00	.06	.15*	.13	.16*
14. Denial	.15*	.34***	.31***	-.02	-.09	-.03	.06	.05	-.03	.09	.55***	-.04	.16*	-	.14*	.13	.12	.36***	.15*	-.17*
15. Religious Coping	-.04	.09	.06	.28***	.07	.12	.50***	.03	.15*	.06	.10	.02	.04	.14*	-	.01	.20**	.01	-.04	.13
16. Humor	.02	.08	.15*	.04	.12	-.02	.00	.37***	.28***	.14*	.14*	.07	.00	.13	.01	-	.25***	.09	.38***	.24***
17. Restraint	.16*	.03	.12	.04	.05	-.05	.10	.26***	.39***	.25***	.22***	.20**	.06	.12	.20**	.25***	-	.02	.39***	.42***
18. Substance Use	.18**	.23**	.30***	-.08	-.13	-.04	-.03	-.07	.02	.10	.29***	.08	.15*	.36***	.01	.09	.02	-	.12	-.07
19. Acceptance	.15*	.18**	.23***	-.07	.00	-.11	-.07	.41***	.36***	.16*	.18**	.10	.13	.15*	0.04	.38***	.39***	.12	-	.33***
20. Planning	-.15*	.00	.03	.31***	.35***	.15*	.28***	.49***	.73***	.47***	-.15*	.40***	.16*	-.17*	.13	.24***	.42***	-.07	.33***	-

Note. N = 242. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7. *Internal Consistencies of Scales*

<i>Measure and Scale/Subscale</i>	<i>Number of Items</i>	<i>Cronbach's alpha (α)</i>
Childhood Trauma Questionnaire		
Overall Maltreatment Severity	25	.94
Emotional Abuse	5	.86
Physical Abuse	5	.91
Sexual Abuse	5	.96
Emotional Neglect	5	.88
Physical Neglect	5	.73
GAD-7 Total Score (Generalized Anxiety)	7	.93
CES-D Total Score (Depression)	20	.83
CYRM-28		
Overall Resilience	28	.89
Individual Resilience	11	.80
Relational Resilience	7	.82
Contextual Resilience	10	.75
COPE		
Positive Reinterpretation & Growth	4	.75
Mental Disengagement	4	.41 ⁺
Active Coping	4	.68
Instrumental Social Support	4	.80
Behavioral Disengagement	4	.77
Emotional Social Support	4	.86
Focus on and Venting of Emotions	4	.78
Denial	4	.78
Religious Coping	4	.95
Humor	4	.90
Restraint	4	.64
Substance Use	4	.94
Acceptance	4	.68
Suppression of Competing Activities	4	.53 ⁺
Planning	4	.80

Note. N=242. ⁺Not included in further analyses due to inadequate reliability.

Table 8. *Hierarchical Multiple Regression with Overall Resilience as Moderator of Maltreatment Severity and Depression*

<i>Predictors</i>	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Step 1					
Maltreatment Severity	11.15	4.90	0.16	2.27	0.02
Overall Resilience	-0.12	0.05	-0.20	-2.76	0.006
Step 2					
Maltreatment Severity	77.90	32.95	1.14	2.36	0.02
Overall Resilience	0.94	0.52	1.42	1.79	0.08
Maltreatment Severity x Overall Resilience	-0.64	0.31	-1.48	-2.05	0.04

Note. N = 220. *B* = Unstandardized coefficients. β = Standardized coefficients. SE = Standard Error.

Table 9. *Conditional Effects of Maltreatment Severity at Differing Values of Overall Resilience*

<i>Level of Overall Resilience</i>	<i>Effect</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>95% CI</i>
Low Resilience (1 SD Below Mean)	19.42	6.33	3.07	0.002	[6.94, 31.89]
Average Resilience (Mean)	10.15	4.89	2.08	0.04	[-.52, 19.78]
High Resilience (1 SD Above Mean)	0.88	6.97	0.13	0.90	[-12.86, 14.62]

Note. N = 220. Dependent Variable = Depression Symptoms. SD = Standard Deviation. SE = Standard Error.

Table 10. *Means and Confidence Intervals for Resilience Types by Gender*

<i>Dependent Variable</i>	<i>Gender</i>	<i>Mean</i>	<i>Standard Error</i>	<i>95% CI</i>
Overall Resilience	Male	105.52	2.54	[100.52, 110.51]
	Female	106.87	1.04	[104.81, 108.92]
	Non-Binary/Gender Fluid/Other	99.50	5.95	[87.78, 111.22]
Individual Resilience	Male	44.73	0.99	[42.77, 46.69]
	Female	45.05	0.41	[44.25, 45.86]
	Non-Binary/Gender Fluid/Other	44.00	2.33	[39.41, 48.59]
Relational Resilience	Male	25.21	0.94	[23.36, 27.07]
	Female	26.59	0.39	[25.83, 27.35]
	Non-Binary/Gender Fluid/Other	24.33	2.21	[19.98, 28.69]
Contextual Resilience	Male	35.58	1.05	[33.51, 37.64]
	Female	35.23	0.43	[34.38, 36.07]
	Non-Binary/Gender Fluid/Other	31.17	2.46	[26.33, 36.00]

Note. N = 234. CI = Confidence Interval. Range of Scores for: Overall Resilience = 28-140; Individual Resilience = 11-55; Relational Resilience = 7-35; Contextual Resilience = 10-50.

Table 11. Means and Confidence Intervals for Behavioral Disengagement by Ethnicity

<i>Dependent Variable</i>	<i>Ethnicity</i>	<i>Mean</i>	<i>Standard Error</i>	<i>95% CI</i>
Behavioral Disengagement	Hispanic or Latino	8.80	0.50	[7.82, 9.78]
	Not Hispanic or Latino	7.38	0.17	[7.05, 7.72]

Note. N = 228. Covariate = Childhood maltreatment severity. CI = Confidence Interval.
Range of Scores = 4-16.

Table 12. Means and Confidence Intervals for the Focus on and Venting of Emotions by Gender

<i>Gender</i>	<i>Mean</i>	<i>Standard Error</i>	<i>95% CI</i>
Male	9.15	0.50	[8.12, 10.17]
Female	10.62	0.22	[10.18, 11.06]
Gender Fluid/Non-Binary/Other	10.17	1.70	[5.79, 14.54]

Note. N = 229. CI = Confidence Interval. Range of Scores = 4-16.

Table 13. Means and Confidence Intervals for Coping Strategies by Maltreatment Severity

<i>Dependent Variable</i>	<i>Maltreatment</i>		<i>Mean</i>	<i>Standard Error</i>	<i>95% CI</i>
	<i>Severity</i>				
Positive Reint. & Growth	Low		12.23	0.22	[11.80, 12.66]
	Moderate		11.62	0.31	[11.01, 12.23]
	Severe		10.94	0.40	[10.12, 11.76]
Use of Emotional Social Support	Low		11.30	0.31	[10.69, 11.91]
	Moderate		10.42	0.37	[9.69, 11.15]
	Severe		9.83	0.49	[8.83, 10.83]
Behavioral Disengagement	Low		7.00	0.23	[6.56, 7.46]
	Moderate		8.04	0.27	[7.50, 8.57]
	Severe		7.97	0.44	[7.08, 8.86]
Denial	Low		6.09	0.21	[5.67, 6.51]
	Moderate		6.81	0.33	[6.15, 7.46]
	Severe		6.56	0.48	[6.50, 8.44]
Substance Use	Low		5.68	0.24	[5.21, 6.14]
	Moderate		6.34	0.34	[5.66, 7.01]
	Severe		7.31	0.64	[6.02, 8.61]

Note. N= 228. CI = Confidence Interval. Range of Scores for all Dependent Variables = 4-16. Low = Low-to-Moderate. Moderate = Moderate-to-Severe. Severe = Severe-to-Extreme.

FIGURES

Figure 1. *Interaction Effects of Maltreatment Severity and Overall Resilience on Depressive Symptoms*

Note. N = 220.

Figure 2. *Total Effect of Overall Resilience on Generalized Anxiety Symptoms*

Note. $^{***}p < .001$

Figure 3. *Behavioral Disengagement as a Mediator Between Overall Resilience and Generalized Anxiety Symptoms*

Note. $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$

Figure 4. *Total Effect of Overall Resilience on Depressive Symptoms*

Note. $***p < .001$

Figure 5. *Behavioral Disengagement as a Mediator Between Overall Resilience and Depressive Symptoms*

Note. $*p < .05$, $**p < .01$, $***p < .001$

Figure 6. *Total Effect of Individual Resilience on Generalized Anxiety Symptoms*

Note. $***p < .001$

Figure 7. *Behavioral Disengagement as a Mediator Between Individual Resilience and Generalized Anxiety Symptoms*

Note. $*p < .05$, $**p < .01$, $***p < .001$

Figure 8. *Total Effect of Individual Resilience on Depressive Symptoms*

Note. $***p < .001$

Figure 9. *Behavioral Disengagement as a Mediator Between Individual Resilience and Depressive Symptoms*

Note. $*p < .05$, $**p < .01$, $***p < .001$

APPENDICES

Appendix A. Recruitment Materials

Social Networking Recruitment Post (Facebook, Twitter, LinkedIn)

“I have designed this survey to learn about the factors that contribute to the development and maintenance of internalizing disorders, such as generalized anxiety and depression. Participants may enter a raffle to win an Amazon gift card. The survey will take 25-35 minutes to complete, and you may participate if you are 18 years or older. If you would like to participate in this survey, please use the web link below:

[Link to Qualtrics survey will be posted here]

Thank you!

This survey is being conducted by Bryana Killion and Dr. Ellen Flannery-Schroeder in the Department of Psychology at the University of Rhode Island.”

Recruitment Email for Community Mental Health Centers

Dear *[insert name]*,

My name is Bryana Killion, and I am a doctoral student in the Clinical Psychology program at the University of Rhode Island. I received your contact information from *[insert name]*. I am hoping you may be able to help me. I am conducting a research study with Dr. Ellen Flannery-Schroeder (Principal Investigator) about the relationship between childhood experiences and symptoms of anxiety and depression during adulthood. I am looking to recruit participants who are 18 years or older. Could you please forward the message below to individuals (*who participate in your organization/who receive services at your center*)?

The study takes approximately 25-35 minutes to complete, and participants will have an opportunity to win an Amazon gift card for their participation. We hope that the findings from this study will help inform prevention and intervention efforts aimed at reducing symptoms of anxiety and depression.

This research has been approved by the University of Rhode Island Institutional Review Board.

Thank you for your time and assistance,

Bryana E. Killion, M.A.
Clinical Psychology Doctoral Candidate
Department of Psychology
University of Rhode Island
BKillion@uri.edu

Recruitment PowerPoint Slide for Psychology Courses

DEVELOPMENT OF INTERNALIZING DISORDERS

You are invited to participate in a research study being conducted in the Department of Psychology at URI (P.I.: Ellen Flannery-Schroeder, Ph.D., ABPP). The purpose of this study is to learn more about the relationship between childhood experiences and internalizing disorders, such as anxiety and depression.

Individuals who are **18 years or older** will be asked to complete a series of online surveys, which will take about 25-35 minutes to complete. **You do not need to have symptoms of anxiety or depression to participate.**

Participation in this study will help clarify what factors are associated with internalizing disorders, which can be used to tailor interventions and enhance outcomes in preventing or treating anxiety and depression.

You will receive *[insert amount and type of extra credit here]* extra credit in this course for your participation. **Please screenshot the thank you/completion page and email it to your professor after completing the survey.**

Use this link to participate: https://uribus.co.l.qualtrics.com/jfe/form/SV_3ac11b8rS4nmPDT

*****If you choose to not participate in this study but are interested in an alternative written assignment extra credit opportunity, please contact your professor.****

This research has been approved by the University of Rhode Island Institutional Review Board.

Appendix B. Demographics Form

Please tell us the following information about yourself:

1. Age: _____

2. Gender: ☐ Male ☐ Female ☐ Trans male ☐ Trans female
☐ Gender fluid ☐ Non-binary ☐ Other: _____

3. Ethnicity: ☐ Hispanic or Latino ☐ Not Hispanic or Latino

4. Race: ☐ White/Caucasian ☐ Black/African-American ☐ Asian
☐ Native American/Alaskan Native ☐ Native Hawaiian/Pacific Islander
☐ Multi-racial ☐ Other: _____

5. Marital Status: ☐ Single, never married ☐ Married or domestic partnership
☐ Widowed ☐ Divorced ☐ Separated

6. What is the highest degree or level of education you have completed?

☐ Less than high school	☐ High school graduate (includes equivalency)
☐ Some college, no degree	☐ Associate's degree
☐ Bachelor's degree	☐ Graduate or professional degree

7. What is your employment status?

☐ Work full-time (35 hours or more)	☐ Work part-time (Less than 35 hours)
☐ Student	☐ Not working but seeking employment
☐ Not working and not seeking employment	☐ Other: _____

9. What is your **current** approximate annual household annual income?

☐ Less than \$16,000	☐ \$16,000-\$24,999	☐ \$25,000-\$50,000
☐ \$50,000-\$99,999	☐ \$100,000-\$149,999	☐ \$150,000 or more

10. What was your family's approximate annual household income during the **majority** of your childhood (when you were < 17 years old)?

- ☐ Less than \$16,000 ☐ \$16,000-\$24,999 ☐ \$25,000-\$50,000
☐ \$50,000-\$99,999 ☐ \$100,000-\$149,999 ☐ \$150,000 or more

Parent 1: Please answer the following questions with regard to Parent 1. If you did not live with a parent growing up, please leave this section blank.

11. Gender of **Parent 1**: ☐ Male ☐ Female ☐ Trans male ☐ Trans female
☐ Gender fluid ☐ Non-binary ☐ Other: _____

12. How would you best categorize **Parent 1's** marital status during the **majority** of your childhood (when you were <17 years old)?

- ☐ Married and living with spouse ☐ Single, never married
☐ Divorced ☐ Separated
☐ Widowed ☐ Other (please specify):

13. Highest grade completed for **Parent 1**:

- ☐ Graduate School/Professional Training ☐ Undergraduate College/University
☐ Some College (at least 1 year) ☐ High School Graduate
☐ Some High School (at least 2 years) ☐ Junior High/Middle School
☐ Less than 7th grade ☐ Not applicable or unknown

14. How would you best categorize **Parent 1's** employment status during the **majority** of your childhood (when you were <17 years old)?

- ☐ Employed full-time (35 hours/wk or more) ☐ Employed part-time (Less than 35 hours/wk)
☐ Unemployed ☐ Retired
☐ Other (please specify): _____ ☐ Junior High/Middle School
☐ Less than 7th grade ☐ Not applicable or unknown

15. If employed, what was **Parent 1's** primary occupation during the **majority** of your childhood (when you were < 17 years old)?

Job Title: _____

Field of Employment: _____

16. How would you best *categorize* **Parent 1's** primary occupation during your childhood (when you were <17 years old)?

- ☐ Executive, Proprietor of Large Businesses, or Major Professional
(includes: CEOs, company presidents or vice-presidents, major or lieutenant military commander, government officials, engineers, judges, lawyers, doctors, dentists, architects, scientists, college professors, owners of business worth more than \$250,000)
- ☐ Administrator, Lesser Professional, Proprietor of Medium-Sized Business
(includes: district managers, executive assistants, owners of business worth between \$100,000 and \$250,000, lieutenant/captain/sergeant military commanders, accountants, administrators of college/middle/elementary school, authors, clergymen, computer specialists, curators, librarians, musicians, nurses, pharmacists, airline pilots, high school teachers)
- ☐ Smaller Business Owners, Farm Owners, Managers, Minor Professionals
(includes: actors, TV/radio announcers, real estate appraisers, real estate agents/brokers, artists, computer programmers, designers, mailmen, sales managers, sales representatives (manufacturing industries), insurance agents, office managers, painters (professional), sculptors, reporters, social workers, elementary/middle school teachers, stock or bond salesmen, writers, vocational/educational counselors)
- ☐ Technicians, Semiprofessionals, Small Business Owners
(includes: advertising agents, air traffic controllers, athletes, dental hygienists, dieticians, flight engineers, home management advisors, inspectors (construction), payroll/timekeeping clerk, photographers, religious workers, legal/medical secretaries, sheriffs/bailiffs, stenographers, teacher aides, technicians, therapists, tool programmers, owners of businesses valued at \$50,000 to \$75,000)
- ☐ Clerical and Sales Workers, Small Farm and Business Owners
(includes: auctioneers, bank tellers, billing clerks, bookkeepers, cashiers, clerical assistants, clerical supervisors, bill collectors, dental assistants, investigators, library assistants, recreation workers, telephone operators, therapy assistants, typists, owners of small businesses valued at \$25,000 to \$50,000)
- ☐ Smaller Business Owners, Skilled Manual Workers, and Craftsmen
(includes: airline attendants, bakers, blacksmiths, brick masons/stonemasons, cabinetmakers, carpenters, carpet installers, cement/concrete finishers, railroad conductors, decorators, detectives, dispatchers, dry wall installers, electricians, electric power

lineman/cablemen, engravers, enumerators, firemen, housekeepers, jewelers, lithographers, machinists, mail carriers (post office), bar/restaurant/cafeteria managers, marshals (law enforcement), mechanics, plasterers, plumbers, proofreaders, radio operators, receptionists, repairmen, sheet metal workers, stock clerks/storekeepers, building superintendents, switchmen (railroad), tailors, telephone linemen, welders, owners of small businesses valued at less than \$25,000)

☐ Machine Operators and Semi-skilled Workers

(includes: animal caretakers, barbers, boatmen, bulldozer operators, bus drivers, chauffeurs, child care workers, conductors/motormen (urban rail transit), deliverymen, dressmakers/seamstresses, file clerks, fishermen, forklift/tow operators, furniture/wood finishers, guards/watchmen, hairdressers/cosmetologists, health aides, meat cutters/butchers, midwives, painters (construction), roofers, sailors, shoe repairmen, solderers, cab drivers, truck drivers, upholsterers, welfare service aides, enlisted member of armed services (other than non-commissioned officers))

☐ Unskilled Workers

(includes: bartenders, busboys, cooks, crossing guards, elevator operators, food service, garage workers/gas station attendants, garbage collectors, gardeners/groundskeepers, laundry/dry cleaning operatives, lumbermen/raftsmen/woodchoppers, messengers, parking attendants, school monitors, waiters, warehousemen)

☐ Farm Laborers/Menial Service Workers

(includes: attendants (personal service/recreation/amusement), baggage porters/bellhops, dishwashers, farm laborers, janitors, maids/servants (private household), private household workers, produce graders/sorters, stockhandlers, vehicle washers/equipment cleaners, ushers (recreation/amusement))

☐ Other (please specify): _____

Parent 2: Please answer the following questions with regard to Parent 2. If you did not live with a parent growing up, please leave this section blank.

17. Gender of **Parent 2**: ☐ Male ☐ Female ☐ Trans male ☐ Trans female

☐ Gender fluid ☐ Non-binary ☐ Other: _____

18. How would you best categorize **Parent 2's** marital status during the **majority** of your childhood (when you were <17 years old)?

☐ Married and living with spouse

☐ Single, never married

☐ Divorced

☐ Separated

☐ Widowed

☐ Other (please specify):

19. Highest grade completed for **Parent 2**:

- ☐ Graduate School/Professional Training ☐ Undergraduate College/University
- ☐ Some College (at least 1 year) ☐ High School Graduate
- ☐ Some High School (at least 2 years) ☐ Junior High/Middle School
- ☐ Less than 7th grade ☐ Not applicable or unknown

20. How would you best categorize **Parent 2's** employment status during the **majority** of your childhood (when you were <17 years old)?

- ☐ Employed full-time (35 hours/wk or more) ☐ Employed part-time (Less than 35 hours/wk)
- ☐ Unemployed ☐ Retired
- ☐ Other (please specify): _____ ☐ Junior High/Middle School
- ☐ Less than 7th grade ☐ Not applicable or unknown

21. If employed, what was **Parent 2's** primary occupation during the **majority** of your childhood (when you were < 17 years old)?

Job Title: _____

Field of Employment: _____

22. How would you best *categorize* **Parent 2's** primary occupation during your childhood (when you were <17 years old)?

- ☐ Executive, Proprietor of Large Businesses, or Major Professional
(includes: CEOs, company presidents or vice-presidents, major or lieutenant military commander, government officials, engineers, judges, lawyers, doctors, dentists, architects, scientists, college professors, owners of business worth more than \$250,000)
- ☐ Administrator, Lesser Professional, Proprietor of Medium-Sized Business
(includes: district managers, executive assistants, owners of business worth between \$100,000 and \$250,000, lieutenant/captain/sergeant military commanders, accountants, administrators of college/middle/elementary school, authors, clergymen, computer specialists, curators, librarians, musicians, nurses, pharmacists, airline pilots, high school teachers)
- ☐ Smaller Business Owners, Farm Owners, Managers, Minor Professionals
(includes: actors, TV/radio announcers, real estate appraisers, real estate agents/brokers, artists, computer programmers, designers, mailmen, sales managers, sales representatives)

(manufacturing industries), insurance agents, office managers, painters (professional), sculptors, reporters, social workers, elementary/middle school teachers, stock or bond salesmen, writers, vocational/educational counselors)

- ☐ **Technicians, Semiprofessionals, Small Business Owners**
(includes: advertising agents, air traffic controllers, athletes, dental hygienists, dieticians, flight engineers, home management advisors, inspectors (construction), payroll/timekeeping clerk, photographers, religious workers, legal/medical secretaries, sheriffs/bailiffs, stenographers, teacher aides, technicians, therapists, tool programmers, owners of businesses valued at \$50,000 to \$75,000)
- ☐ **Clerical and Sales Workers, Small Farm and Business Owners**
(includes: auctioneers, bank tellers, billing clerks, bookkeepers, cashiers, clerical assistants, clerical supervisors, bill collectors, dental assistants, investigators, library assistants, recreation workers, telephone operators, therapy assistants, typists, owners of small businesses valued at \$25,000 to \$50,000)
- ☐ **Smaller Business Owners, Skilled Manual Workers, and Craftsmen**
(includes: airline attendants, bakers, blacksmiths, brickmasons/stonemasons, cabinetmakers, carpenters, carpet installers, cement/concrete finishers, railroad conductors, decorators, detectives, dispatchers, dry wall installers, electricians, electric power lineman/cablemen, engravers, enumerators, firemen, housekeepers, jewelers, lithographers, machinists, mail carriers (post office), bar/restaurant/cafeteria managers, marshals (law enforcement), mechanics, plasterers, plumbers, proofreaders, radio operators, receptionists, repairmen, sheetmetal workers, stock clerks/storekeepers, building superintendents, switchmen (railroad), tailors, telephone linemen, welders, owners of small businesses valued at less than \$25,000)
- ☐ **Machine Operators and Semi-skilled Workers**
(includes: animal caretakers, barbers, boatmen, bulldozer operators, bus drivers, chauffeurs, child care workers, conductors/motormen (urban rail transit), deliverymen, dressmakers/seamstresses, file clerks, fishermen, forklift/tow operators, furniture/wood finishers, guards/watchmen, hairdressers/cosmetologists, health aides, meat cutters/butchers, midwives, painters (construction), roofers, sailors, shoe repairmen, solderers, cab drivers, truck drivers, upholsterers, welfare service aides, enlisted member of armed services (other than non-commissioned officers))
- ☐ **Unskilled Workers**
(includes: bartenders, busboys, cooks, crossing guards, elevator operators, food service, garage workers/gas station attendants, garbage collectors, gardeners/groundskeepers, laundry/dry cleaning operatives, lumbermen/raftsmen/woodchoppers, messengers, parking attendants, school monitors, waiters, warehousemen)
- ☐ **Farm Laborers/Menial Service Workers**
(includes: attendants (personal service/recreation/amusement), baggage porters/bellhops, dishwashers, farm laborers, janitors, maids/servants (private household), private household workers, produce graders/sorters, stockhandlers, vehicle washers/equipment cleaners, ushers (recreation/amusement))

☐ Other (please specify): _____

23. On average, how many hours do you sleep per night?

- ☐ 0-2 hrs/night ☐ 3-4 hrs/night
☐ 5-6 hrs/night ☐ 7-8 hrs/night
☐ 9-10 hrs/night ☐ 11-12 hrs/night
☐ More than 12 hrs/night

24. Do you have a personal history of mental health issues?

- ☐ Yes ☐ No ☐ Unsure

25. If yes to question 24, what type of mental health issues? Please select all that apply:

- ☐ Anxiety Disorder
☐ Depressive Disorder
☐ Bipolar Disorder
☐ Schizophrenia/Schizoaffective Disorder
☐ Personality Disorder (i.e., Borderline, Dependent, Antisocial)
☐ ADHD
☐ Substance Use Problems
☐ Posttraumatic Stress Disorder (PTSD)
☐ Eating Disorder
☐ Oppositional Defiant Disorder or Conduct Disorder
☐ Autism Spectrum Disorder
☐ Tic Disorder
☐ Other (please specify): _____

26. Have you been formally diagnosed with a mental health issue by a professional (e.g., doctor, therapist, psychiatric nurse)?

☐ Yes ☐ No

27. Have you sought professional help for mental health issues?

☐ Yes ☐ No

28. If yes to question 27, who have you gone to for help? Please select all that apply:

- ☐ Psychologist, Counselor, or Therapist
- ☐ Psychiatrist or Psychiatric Nurse
- ☐ Primary Care Physician or Other Medical Doctor
- ☐ Inpatient Hospital or Day Program
- ☐ Guidance Counselor or School Psychologist
- ☐ Teacher or Other School Staff Member
- ☐ Social Worker or Case Manager
- ☐ Religious Leader
- ☐ Crisis Hotline
- ☐ Support Group
- ☐ Family
- ☐ Friends
- ☐ I searched the Internet and/or read a book
- ☐ Other (please specify): _____

29. If yes to question 28, how long did you wait before seeking help?

- ☐ I sought help immediately.
- ☐ 0-6 months
- ☐ 7-12 months
- ☐ 1-2 years
- ☐ 3-4 years

☐ 5 years

☐ More than 5 years. Please specify amount of time: _____

30. To your knowledge, do any of your family members have mental health issues?

☐ Yes

☐ No

31. If yes to question 30, which of your family members have mental health issues?
Please select all that apply:

☐ Biological mother or father

☐ Biological siblings

☐ Grandparents or great-grandparents

☐ Aunts or uncles

☐ Cousins, nieces, or nephews

☐ Children

☐ Other (Please Specify): _____

32. If yes to questions 30 & 31, what type of mental health issues? Please select all that apply:

☐ Anxiety Disorder

☐ Depressive Disorder

☐ Bipolar Disorder

☐ Schizophrenia/Schizoaffective Disorder

☐ Personality Disorder (i.e., Borderline, Dependent, Antisocial)

☐ ADHD

☐ Substance Use Problems

☐ Posttraumatic Stress Disorder (PTSD)

☐ Eating Disorder

☐ Oppositional Defiant Disorder or Conduct Disorder

- ☐ Autism Spectrum Disorder
- ☐ Tic Disorder
- ☐ Other (please specify): _____

Appendix C. Informed Consent Form

THE
UNIVERSITY
OF RHODE ISLAND

Ellen Flannery-Schroeder, Ph.D.
Psychology Department
Development of Internalizing Disorders
Page 93 of 3

Consent Form for Research

BACKGROUND

You are being asked to take part in a research study. Before consenting to participate, it is important for you to understand what participation in this study will involve and why this research is being done. Please read this consent form carefully and take time to consider whether or not you would like to be a participant. Please ask us if there is information here that is unclear or if you would like to know more about the study. Do not hesitate to contact our Student Investigator, Bryana Killion, who can be reached at bkillion@uri.edu. You may also contact our Principal Investigator, Dr. Ellen Flannery-Schroeder, Ph.D. (efschroeder@uri.edu) if you have any questions or concerns prior to completing this study.

The purpose of this study is to investigate the relationship between childhood experiences and overall wellbeing during adulthood. Individuals who are 18 years or older are invited to participate. This study will gather information regarding social support, self-esteem, disordered eating, coping, and childhood trauma to better understand how these factors may influence or contribute to symptoms of anxiety and depression during adulthood. Research has indicated that anxiety and depression are among the most prevalent mental health disorders diagnosed in the United States (Anxiety and Depression Association of American, 2017). Approximately 40.1 million American adults experience a clinical level of anxiety each year, and 16.1 million experience clinically significant depression. Nearly one-half of individuals who are diagnosed with depression are also diagnosed with an anxiety disorder, making research on this topic critical to understanding the factors that influence the development and maintenance of these disorders. This study aims to investigate the mechanisms underlying the development and perpetuation of anxiety and depressive disorders.

STUDY PROCEDURE

This study will take you between 25 and 35 minutes to complete. You will be asked to read and answer several different questionnaires regarding your levels of anxiety and depression, social support, self-esteem, disordered eating, your ability to cope and respond to stressful situations, and your experiences with childhood trauma.

RISKS

There is little anticipated risk, harm, or discomfort for participants who complete this study. You may find it distressing to reflect on your symptoms of anxiety. However, we believe this distress will be minimal. If you feel upset from this experience, please contact the Student Investigator or Principal Investigator, and we will direct you to resources available in your area.

BENEFITS

We cannot promise any direct benefits from taking part in the study. However, possible benefits from this study include an awareness of anxiety and depression as mental health disorders and a potential interest in lessening symptoms of these disorders. Self-knowledge of your thoughts and feelings may be acquired as you complete each measure. Mental health resources will be made available upon completion of the study.

Additionally, information gathered from this study may help determine the relationship between several factors and the development and maintenance of anxiety and depression. Future research may use this information to design treatment interventions aimed at reducing symptoms of anxiety and depression.

CONFIDENTIALITY

Your privacy will be protected as only the researchers involved with this study will have access to any identifiable data. Your responses to the measures given will be de-identified to ensure that no information can be linked back to the you. Electronic copies of the data gathered will be stored on secure, password protected computers, using password protected documents. Any hard copies of the data will be locked in a file cabinet within a private office. If the data collected from this study is used in any presentations, posters, or publications, your name will not be used or connected to the information gathered in any way.

PERSON TO CONTACT

If you have questions, complaints, or concerns about this study, please contact Dr. Ellen Flannery-Schroeder, Ph.D. at (401) 874-4219 or efschroeder@uri.edu. You may also contact Dr. Flannery-Schroeder if you feel you have been harmed as a result of participation or if you have any further questions or concerns regarding the study.

Institutional Review Board: Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Rhode Island IRB may be reached by phone at (401) 874-4328 or by e-mail at researchintegrity@etal.uri.edu.

Vice President for Research and Economic Development: You may also contact the Vice President for Research and Economic Development by phone at (401) 874-4576.

VOLUNTARY PARTICIPATION

Participation in this research study is voluntary. If you are a student participating in this study, choosing not to participate in this study will not affect your grade in any way. All participants may withdraw from this study at any time without reprisal. Refusal to participate will not involve any penalty or loss of benefits to which you are otherwise entitled.

COSTS AND COMPENSATION TO PARTICIPANTS

In exchange for your participation, you will be invited to submit your email address for a chance to win one of three \$25 gift cards to Amazon.com following your completion of the survey. Entry is voluntary, and a separate link will be provided for the gift card drawing so that no participant responses will be linked to participant emails addresses or identifying information.

If you are participating in this study for course credit through the University of Rhode Island, you will receive extra credit for participating in this study. The amount of extra credit you will receive will be at the discretion of your course instructor. If you choose not to participate this

study, you may complete a written assignment instead, which will be worth an equivalent amount of extra credit in your course. For this alternative assignment, you will read a peer-reviewed article and write a 1-2 page (double-spaced) paper summarizing and critically reflecting on the reading.

CONSENT

I have read and understand the above consent form, and I certify that I am 18 years or older. By clicking the submit button to enter the survey, I indicate my willingness to voluntarily take part in the study.

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