PARENTING BEHAVIORS AND RESILIENCE: A MEDIATING ROLE FOR EMOTION REGULATION ACROSS TRAUMA EXPOSURE

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ABSTRACT

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Despite the high prevalence of trauma across the lifespan, there is limited research on trauma that occurs in childhood and adolescence and the effects that a person experiences later in life as an adult. Adverse childhood experiences (ACEs) have been consistently well-defined, but their impacts, in conjunction with other environmental factors and individual abilities, have not been identified. Expressly, resilience, or the occurrence of post-traumatic growth following an adverse event, of adults who experienced trauma in childhood and adolescents has limited research in association with relevant variables. For example, parenting behaviors, such as responsiveness and demandingness, have been identified to have lasting impacts on offspring's psychological well-being. Parents also model methods of emotion regulation (ER) and its practice. Results illustrated a statistical significance in resilience scores based on the total number of ACEs. Parental responsiveness and parental demand significantly predicted resilience separately. A mediation analysis demonstrated a partial mediation between parental responsiveness and resilience through ER. Similarly, results illustrated a partial mediation between parental demand and resilience through ER. From these results, more information about the relationship between trauma and resilience has been explained that can inform and target specific interventions across the lifespan and identify areas of future research.

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CHAPTER I

INTRODUCTION

Over the past few decades, traumatology, the study of trauma, has become a burgeoning area of scholarship. Trauma can affect people across the lifespan and may have particularly compelling consequences for children and adolescents that sometimes persist into and affect adulthood. Research on trauma identification has been investigated more frequently and is rooted in how trauma is defined (Alaggia & Donohue, 2018; Ungar, 2019). The definition of trauma has evolved over time. The Substance Abuse and Mental Health Services Administration (SAMHSA, 2012) has provided a holistic working definition that highlights both the impact of trauma and the process of healing: "An event, series of events, or set of circumstances that is experienced by an individual is physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional spiritual well-being" (p. 2). However, the physical and psychological consequences of trauma exposure have only been extensively studied and published within the last 25 years, with the literature growing exponentially on this topic within the last 10 years. Felitti and colleagues (1998) first studied the effects of chronic stress and exposure to trauma. They identified a recurring pattern in which patients in a weight loss treatment group often gained weight following a significant weight loss (Wycoff & Franzese, 2019). These patients reported experiencing abuse in their childhoods and wanted to avoid attention from others who would comment on their weight loss, mimicking the attention paid during the abuse.

Felitti et al. (1998) collected data over 2 years through extensive health questionnaires. Participants included over 9,000 adults who had completed a comprehensive medical evaluation at Kaiser Permanente. An adverse childhood experiences (ACEs) survey was created, identifying

seven different categories of traumatic experiences: psychological, physical, or sexual abuse; witnessing violence against mother; and living with a household member who struggles with substance abuse, mental illness or suicidal ideation, or who had a history of imprisonment. The results indicated that most participants had experienced at least one ACE in their childhoods. The researchers also found a strong positive correlation between the number of ACEs in childhood and risky behaviors reported in adulthood. Felitti and colleagues (1998) also reported a strong positive association between the number of ACEs endured and the number of chronic diseases in adulthood, such as heart disease, cancer, lung disease, and liver disease. Although this was the first study of its kind, there continues to be strong evidence that childhood experiences have a significant impact on mental and physical health in adulthood.

Since Felitti and colleagues' (1998) study, the Centers for Disease Control and Prevention (CDC) have completed additional research to identify 3 additional ACE categories: parental separation or divorce, emotional neglect, and physical neglect (CDC, 2021). The 10 ACE categories have since been utilized to further study the chronic effects of trauma throughout the lifespan and to assist in screening efforts of trauma (Wycoff & Franzese, 2019). For example, researchers have identified extensive neurological abnormalities in response to trauma and stress, including impacts on the amygdala, hypothalamus-pituitary-adrenal (HPA) axis, and hippocampus (Feifer, 2019). Researchers have also suggested that these 10 ACE categories have been identified globally, using similar screening measures to identify previous trauma history and current risk-taking behaviors (Hsia et al., 2020). Overall, these 10 ACE categories can be divided into two factors: child maltreatment and household challenges (Afifi et al., 2020). Through a recent confirmatory factor analysis, the 10 types of ACEs and their categorization were confirmed as originally identified, suggesting that the categorization of ACEs is

psychometrically sound (Afifi et al., 2020). Recently, researchers have suggested that additional ACEs should be considered, such as use of spanking, exposure to gambling problems in the household, and contact with a child protective organization (Afifi et al., 2020). Because of the variety within the ACEs, more research needs to be done to continue defining each ACE and the impact of other potential ACEs. Additional research should also be considered to identify how the consequences of ACEs can be minimized and prevented.

Parenting styles are the emotional climates in which parents/guardians raise children. Different styles have been traditionally defined by global contexts, including culture and beliefs, and psychological dimensions such as control and responsiveness (Argyriou et al., 2016; Smetana, 2017). Baumrind (1971) identified a model of traditional parenting styles that helped delineate three categories of parenting styles: authoritative, authoritarian, and permissive. Additionally, Maccoby and Martin (1983) identified a fourth parenting style known as neglectful parenting. Authoritative parenting has generally been recognized as the preferred parenting style, characterized by high responsiveness to children's needs and high expectations for children's behavior (Smetana, 2017). The four parenting styles can similarly be categorized into either demanding or responsive parenting styles, demonstrating the difference in temperament pertaining to the parent-child relationship (Smetana, 2017). Parenting behaviors and styles have an impact on children and adolescents as they guide children towards desired behaviors (Levin, 2011). The different parenting styles model expectations and implicitly suggest children meet these expectations into adulthood. (Argyriou et al., 2016; Gross et al., 2017). During traumatic crises, parents are expected to respond to their children's physical and psychological needs (Rostad & Whitaker, 2016; Tang et al., 2021); however, there is limited research exploring parenting styles during and after traumatic events.

Emotion regulation (ER) is the collective internal and external processes involved in modifying the experience or expression of an emotion (Thompson, 1994). ER develops throughout the lifespan and involves monitoring emotions, communicating emotions, and ultimately, adjusting emotions in an eventual effort to achieve a goal (Caiozzo et al., 2018). Strategies utilizing ER are defined as either adaptive or maladaptive (Loechner et al., 2020). Adaptive ER strategies are those helpful in regulating an individual's emotions. Examples include cognitive reappraisal, problem solving, and self-distraction (Loechner et al., 2020). Neurological structures that support ER include the anterior cingulate cortex, insular cortex, prefrontal cortex, and amygdala (Wheeler et al., 2017). These structures share responsibility with executive functions, including ER, attention, and problem solving. Maladaptive ER strategies are those that regulate an individual's emotions but are ultimately unsuccessful or avoid the emotion altogether. Examples include rumination of an event that originally elicited an emotion or suppression of the emotion entirely (Loechner et al., 2020). If a child's ER skills are attended to and develop, they will engage in adaptive ER strategies such as problem-solving or the use of a coping skill following adversity (Grych et al., 2015).

Though ER strategies are separated into adaptive or maladaptive, it is also important to understand that each ER strategy works differently. Gross (2002) posited that ER strategies are not inherently good or bad, or adaptive or maladaptive, but can be categorized depending on the type of event triggering the occurrence of ER. ER strategies such as cognitive reappraisal focus on an antecedent event that is problematic and may result in a negative emotion, whereas suppression focuses on the response to an event that has already caused a negative emotion (Gross, 2002). The type, purpose, and context of a strategy is important to understand, particularly among children and adolescents as the skills continue to develop. Depending on the

developmental age of a child or adolescent, some ER strategies are expected and appropriate to use in response to a traumatic event. However, the developmental trajectory of ER in adolescence is inconsistent such that anticipated strategies vary in implementation, including acceptance of a negative emotion or engagement in cognitive reappraisal or suppression (Schweizer et al., 2020). The environmental and situational contexts in which ER strategies are needed do not necessarily match the developmental level or reflect a uniformed progress in ER, with strengths and weaknesses across components (Schweizer et al., 2020). However, maturation in ER and utilization of ER strategies is limited in children. The context in which ER strategies are utilized continue to be important to understand among pediatric populations, particularly among those who have experienced adverse childhood experiences.

Resilience can have a significant impact on the ability to recover from traumatic experiences. Though resilience does not have a universally accepted definition, it is regarded as a multifaceted construct (Aburn et al., 2016). Following an extensive review of previous definitions for resilience, Sisto and colleagues (2019) sought to identify the main components to create a consistent definition: the ability to maintain one's orientation towards existential purposes despite enduring adversities and stresses. General principles and concepts of resilience include the ability to recover, type of functioning that characterizes the individual, capacity to bounce back, dynamic process evolving over time, and positive adaptation to life conditions (Sisto et al., 2019). Resilience can also be defined while considering a series of supports, or protective factors, towards a result of positive adaptation (Aburn et al., 2016). Resilient people tend to be characterized by protective factors, and when exposed to an event that could lead to negative outcomes, they experience positive developmental outcomes instead (Masten & Barnes, 2018). Protective factors can be organized into external and internal factors, including

personality characteristics, relationships, and environmental factors (Firoze & Sathar, 2018; Fogarty et al., 2019). For example, children who exhibit a secure attachment style, in which they develop an emotional tie to a caregiver from whom they seek support, can seek out care in times of stress (Gross et al., 2017). When a parenting style that supports responsiveness to a child's physical and psychological needs is paired with a secure attachment, the parent and child maintain a positive relationship. However, other attachment styles are not helpful in seeking out support from a caregiver when a child is threatened, resulting in additional risk for posttraumatic stress (Zolkoski & Bullock, 2012). The identification of risk factors and previous negative psychosocial outcomes can determine posttraumatic growth (PTG), defined as a significant positive change following an adverse event (Bernstein & Pfefferbaum, 2018). Examples of risk factors include previous exposure to trauma, individually and cumulatively (Zolkoski & Bullock, 2012). Risk and protective factors can be cultural, social, familial, psychological, and biological. Moreover, the presence of a risk factor does not cause the development of trauma-related symptoms, but rather increases the likelihood.

The extent to which a child will experience adaptation and PTG following a threat in conjunction with present or absent protective factors is unclear. Researchers suggest that while resilient individuals are active in controlling their environment, exposure to violence can occur outside of an individual's control and across contexts (Firoze & Sathar, 2018). When considering the risk independently, children exposed to trauma exhibit a series of negative outcomes, including difficulties with relationships, ER, and developing a secure attachment style (Alaggia & Donohue, 2018). However, protective factors can similarly vary in their effectiveness as a buffer for risk and post-traumatic stress, which may occur via indirect effects through additional complex constructs (Alaggia & Donohue, 2018). For example, supportive interpersonal

relationships are a powerful means of enhancing resilience (Firoze & Sathar, 2018). Psychologists consider the dynamic and quality of social relationships within and outside of the family unit context. Resilient families can successfully model adaptive behaviors, such as engaging in problem-solving, asking for help, and utilizing adaptive ER skills (Caiozzo et al., 2018; Ullman et al., 2014). However, the development of adaptive ER strategies and secure parent-child relationships are subject to the risk posed by an adverse event and could become hindered in association with posttraumatic stress. Modeling may vary depending on the style of parenting and the attachment style exhibited by the child. The impact of parenting styles and adaptive ER strategies on resilience needs to be considered more thoroughly.

Events that elicit a resilient response vary. Previous researchers have illustrated that numerous contexts have been evaluated regarding resilience, but there are still many complex situations left unstudied, including those involving children (Bowen, 2017; Ungar, 2019). Though the interaction among parenting styles, ER, and resilience has been investigated separately, the context in which these constructs are considered needs to be better defined, such that an experience with one trauma might differ from others. For example, children who witness family violence may have varied responses due to different environmental contexts surrounding that event, such as the type of parenting styles, available coping strategies, and access to mental health resources. During times of adversity, every individual has their own unique strengths and weaknesses to utilize against adversity (Bowen, 2017). Furthermore, people may experience variations in frequency and duration of trauma exposure and respond to similar events differently due to previous experiences. Differences in adverse experiences can help account for differences in supportive factors, including parenting styles, ER and resilience, and the interaction between each of these constructs. For example, Costello and Klein (2019) suggested that race/ethnicity

provide a moderating effect on the relationship between intimate partner violence frequency and development of trauma symptoms. Black and Hispanic children respond differently to witnessing family violence when compared to their White peers, such that Black and Hispanic children exhibited fewer trauma symptoms than White children as the frequency of violence increased (Costello & Klein, 2019). This difference suggests that race/ethnicity relates to different risk factors for children, including socioeconomic status (SES), parental psychopathology, and neighborhood safety (Costello & Klein, 2019). Moreover, there is a deficit in research regarding trauma and resilience for communities of color. Additional cultural norms could help explain differences in protective factors and resilience across race and ethnicity. For example, Hispanic culture has been defined by strong family-centered values and social networks, and Black culture is associated with shared responsibility among female caregivers (Costello & Klein, 2019). However, research is limited about whether the identified differences in resilience and race and ethnicity can be applied to other types of traumas.

Understanding the impact on individual neuropsychological functioning in response to trauma also warrants further review. Though there are neurological implications in looking at parenting styles, ER, and resilience individually, how these functions and processes interact with each other provides insight into the complexity and relation between each of these variables (Wheeler et al., 2017). Variables including ER are inherently executive functions, described by processes that are regulated by the prefrontal cortex, and are neuropsychological in nature (Wheeler et al., 2017). Although the present study did not include neuropsychological tasks in the research design, identifying the neuropsychological processes associated with trauma, parenting styles, ER, and resilience provided helpful information in interpreting the results in the discussion chapter.

Purpose of the Study

The purpose of this study was to determine how parenting styles and ER skills impact resilience in adulthood. Mental health practitioners should understand the physical and psychological consequences of each ACE and what protective factors, such as parenting styles and ER, best lead children to develop a resilient response. There was a gap in research on the relations among ACEs, parenting behaviors, ER, and resilience. The researcher proposed the following questions: How do demographics factors relate to resilience? To what degree does trauma predict resilience? How much variance is explained by trauma outside of the influence of demographic variables? Do parenting behaviors and styles relate to resilience? Is there a correlation between parenting behaviors, including demand and responsiveness, and resilience? Does ER mediate that relationship?

CHAPTER II

LITERATURE REVIEW

Trauma

Approximately one in three children will experience an ACE and about 14% will experience two or more ACEs (Health Resources and Services Administration [HRSA], 2020). In a recent survey on adult health problems attributed to childhood experiences, 61% of participants reported at least one ACE, and 16% reported four or more ACEs (Merrick et al., 2019). The prevalence of ACEs varies across race and ethnicity. Sacks and Murphey (2018) found that 61% of non-Hispanic Black children, 51% of Hispanic children, 40% of non-Hispanic White children, and 23% of Asian children experienced at least one ACE. This finding suggests that the occurrence of trauma does not occur equally across race and ethnicity (Sacks & Murphey, 2018). There is limited research that explains the differing prevalence of ACEs across racial and ethnic groups. However, researchers have posited that the public health and social justice concerns that are systemic within the U.S. can explain the increased risk of ACEs among people who identify as non-Hispanic Black, Hispanic, Asian, Pacific Islander, American Indian, and multiracial, when compared to those who identify as non-Hispanic White (LaBrenz et al., 2020). Researchers have further identified the physical and psychological impacts of trauma that persist intergenerationally among racial and ethnic minority groups. This pattern further acknowledges other types of traumas that have not been included in the categories of ACEs but are still traumatic experiences including racial trauma, generational trauma, and historical trauma (LaBrenz et al., 2020). However, there have been differences in observed trauma symptoms across racial and ethnic minorities (Costello & Klein, 2019). Differences in symptoms may be the result of limited definitions of trauma, particularly from a White perspective and symptoms

largely present among White individuals. Similarly, there is a difference across gender in the occurrence of trauma. Felitti and colleagues (1998) found that women were 50% more likely than men to have experienced five or more of the ACE categories.

Among the 10 ACE categories, three clear themes can be identified: abuse, neglect, and household dysfunction (Felitti et al., 1998). The American Psychological Association (APA) estimates that between three and ten million children per year witness violence in their homes and communities, and those children often suffer from fear and anxiety afterwards (APA, 2008; Hamby et al., 2015). In 2019, Child Protective Services reported that approximately 538,000 children experienced abuse and neglect (Children's Bureau, 2021). The effects of developmental, or early childhood trauma, last throughout the lifespan and impact mental and physical health (Van Der Kolk, 2014). In childhood, ACEs continuously impact children's overall functioning, adjustment, cognitive development, social-emotional functioning, academic achievement, and neuropsychological functioning across settings (Wycoff & Franzese, 2019).

The original ACEs study conducted by Felitti and colleagues (1998) provided initial insight into the complex physical, mental, and behavioral health needs for the U.S. population. Results suggest that the more exposure a child has to adversity, the greater the risk for physical and mental health problems in adulthood (Felitti et al., 1998). Approximately 20 years of life is estimated to be lost for people who experienced multiple adversities in early childhood, resulting in early mortality (Harris, 2018). However, the extent to which adversity in early childhood can impact multiple aspects of functioning and daily living is unknown. The ACEs questionnaire was developed from the original study (Felitti et al., 1998) and contains ten questions based on the ten categories to determine if they occurred prior to age 18 years. Each response indicating an adversity has occurred is added together to create a total score. The total score represents how

many ACEs a person has experienced prior to adulthood (Koita et al., 2018). Similar to the pattern regarding the number of exposures to adversity and impacts on functioning in adulthood, higher total ACE scores are associated with greater impacts on physical and mental health later in life (Zarse et al., 2019). Though the previous prevalence findings distinguish children who have experienced at least one ACE from those who have experienced four or more ACEs, the interpretation of the ACE score suggests that a score of five or higher is related to increased likelihood for depression, anxiety, and other mood disorders (Zarse et al., 2019). These sequelae are associated with consequential health outcomes and reflect a staircase effect regarding exposure to adversity (Wycoff & Franzese, 2019). However, there are limitations in use of this scale, including that the ACEs questionnaire was normed based on the sample collected from the original ACEs study (Felitti et al., 1998), which was predominantly White. Additional research is similarly needed about the assessment of trauma exposure among diverse populations.

Stress and Trauma

Without trauma, the resilient response cannot be tested. Notably, some stress is beneficial as it allows for the development of self-regulation, practice of coping skills, and resilience (Wycoff & Franzese, 2019). However, too much stress becomes toxic to the efficacy of these constructs, particularly in the absence of protective factors, and hinders overall functioning. The balance between exposure to adversity and adaptive functioning is related to allostasis, the notion that a body seeks to achieve and maintain homeostasis, particularly in the presence of stressors (Ullmann et al., 2019). Allostatic load, the effort required to maintain allostasis, illustrates the impact that chronic trauma has on the physical body as well. When a body is healthy and free of stress prior to an adverse event, it initiates a physiological process towards a protective response (Seeley, 2019). However, if the body's natural response to stress is ineffective, the allostatic load

will remain and result in persistent negative health outcomes and potential future illness (Harris, 2018). Many of the leading causes of death in the U.S. have been empirically linked to ACEs, including heart disease, cancer, chronic respiratory distress, stroke, diabetes, kidney disease, and suicide (Merrick et al., 2019).

Chronic stress associated with ACEs is associated with greater risk in physical and mental health outcomes and risk-taking behaviors later in life compared to people who have no previous exposure to adversity (Felitti et al., 1998). For example, Hughes and colleagues (2017) found that individuals with four or more ACEs were significantly more likely, compared to people with no ACEs, to attempt suicide, experience anxiety or depression, have poor self-rated health and low life satisfaction, contract a sexually transmitted infection (STI), experience chronic diseases, and engage in risky behaviors such as smoking, unsafe sex, and substance abuse. Experiencing more ACEs poses a significant risk factor for various health conditions (Hughes et al., 2017). Previous research suggests that risk for behavioral, physical, and psychological health problems between people with no ACEs and those with one ACE increases 30-40% (Wycoff & Franzese, 2019). The outcomes associated with ACEs illustrate the importance of identifying and reducing exposure to ACEs for children. However, policies and research surrounding public health continue to focus on the identification of trauma and the consequences of trauma in adulthood, rather than on prevention of ACEs during childhood, resilience building in childhood, and provision of informed services.

Social Factors of Trauma

Public health agencies have historically been interested in the overall well-being of large communities of people and management of communicable diseases (Wycoff & Franzese, 2019). More recently, public health organizations have shifted their focus to understanding the social

factors of health, such as trauma and prevention (Merrick et al., 2019). Social determinants of health include factors such as social class, family and household structure, social support, education, and community centers, many of which share similarities with protective factors (Merrick et al., 2019). Many of these factors are beyond the control of the individual experiencing adversity, but nonetheless impact the individual and their physical and psychological health outcomes later in life. Social determinants can also help consider how ACEs may affect the health and wellness of communities and explain why some populations are healthier than others (Harris, 2018).

Understanding the factors that contribute to more frequent ACEs among racial/ethnic and gender minorities is important to consider as well. The health impacts of trauma further exacerbate the differences in health outcomes from other social inequities (Bowen & Murshid, 2016). The continued impact of cumulative damage from recurring stress responses can lead to similar negative health outcomes (Levy et al., 2019). Research on the occurrence of ACEs across populations is imperative and should include aspects of social inequities in health and economic status (Bowen & Murshid, 2016; Merrick et al., 2019). Health and economic policies, along with wealth, have been identified as protective factors against ACEs, and are often considered together or as one impacting another (Fogarty et al., 2019).

Neuropsychology of Trauma

Regardless of the source of a traumatic event or the type of trauma, the brain responds in an automatic, predictive fashion (Feifer, 2019). The brain's response to trauma influences the body to initiate an overall stress response. The amygdala, responsible for perceiving and processing threats and regulating emotional responses (Fox et al., 2015), is particularly active during chronic stress. The more danger perceived from a threat, the stronger the amygdala

responds in initiating the HPA system, also known as the fight or flight response (Grimm et al., 2014). Physiological symptoms observed during the fight or flight response include hypervigilance, increased heart rate, increased breathing rate, and defensive behavior (Ross et al., 2017).

HPA System

The HPA system can be described as a series of chemical events (Fox et al., 2015). After the amygdala responds to a perceived threat, vasopressin and corticotropin releasing hormone (CRH) are released to stimulate the pituitary gland (Grimm et al., 2014). The pituitary gland subsequently releases adrenocorticotropic hormone (ACTH), which then triggers the release of cortisol from the adrenal cortex (Feifer, 2019). Cortisol, the stress hormone, increases glucose levels to ultimately support the fight or flight response by suppressing the need for glucose in other areas of the body, maintaining glucose homeostasis (Bensten et al., 2019). For example, the immune system needs glucose to properly develop T-cells and respond to infections, while excessive glucose leads to impairment of the immune system (Shomali et al., 2021). People with a suppressed immune system, particularly children, are at greater risk for developing health conditions associated with trauma later in life. The amygdala plays a critical role in processing adverse experiences once the HPA system is initiated (Fox et al., 2015). If the amygdala has trouble assessing and determining stimuli to be a legitimate threat, children may further be at risk for anxiety disorders if the amygdala learns to encode neutral situations or stimuli as a threat (VanTieghem et al., 2021).

The amygdala also has functions related to memory. It triggers memories tied to emotions, specifically fear-based memories (Feifer, 2019). The amygdala's role in fear-based conditioning occurs through classical conditioning by pairing a specific stimulus from a

traumatic event (i.e., a sound, smell, image) with danger (Fox et al., 2015). The association can lead to the development of triggers for subsequent trauma responses when a child encounters the original stimulus again (Fox et al., 2015). Consequently, children and adolescents may struggle with predictive errors in accurately identifying the conditioned stimulus that results in a conditioned response. Cisler and colleagues (2019) identified that children who experienced physical assault in early childhood were more likely to be easily aroused and more likely to initiate a trauma response, exhibiting difficulties with salience and emotional processing. This finding suggests that the association made between the original stimulus and response from the traumatic event becomes generalized to include other stimuli (Cisler et al., 2019). In addition to the neurological functioning behind the fight or flight response, a child might exhibit symptoms of anxiety such as a phobia of the stimulus and panic attacks (Sussman et al., 2016). Anxiety can often impair functioning, resulting in social and academic impairments for children.

The hippocampus, responsible for declarative memory, similarly plays a critical part in the brain's trauma response (Grimm et al., 2014). Adjacent to the amygdala, the hippocampus acts as a complementary structure to the amygdala's function in the trauma response (Feifer, 2019). Declarative memory, the memory for details and facts, includes specific contexts of the memory such as the location and time of a traumatic event (Terock et al., 2020). However, due to a lack of emotional associations made with these memories, the hippocampus does not directly make the association between a stimulus and emotional experience in the way the amygdala does (Fox et al., 2015). Though the amygdala and hippocampus have two different functions within memory, neurons in the hippocampus can be severely impacted by high levels of cortisol elicited by the amygdala (VanTieghem et al., 2021). Evidence suggests that the hippocampus reduces in size and volume when under chronic stress conditions, such as trauma over a long period of time

(Z. Wu et al., 2020). Consistent elevated levels of cortisol impact the release of brain-derived-neurotrophic-factor (BDNF), related to the production of new neurons in the hippocampus (VanTieghem et al., 2021). The reduction in size, volume, and number of neurons in the hippocampus is related to memory loss of specific contexts of the traumatic event, but the fear associated with the event remains.

The amygdala and hippocampus act as coregulators in that emotion can increase the accuracy of memory functioning (Fox et al., 2015). The more unexpected and emotionally-charged an event, as interpreted by the amygdala, the more likely the hippocampus is to recall the specific details of the event (Feifer, 2019). Though a traumatic event is specific to the perspective and interpretation of a child, the 10 ACEs have been consistent across populations regarding responses and consequences to those events (Afifi et al., 2020). Conversely, routine daily events are not salient enough to result in a threat determination by the amygdala and will likely not be encoded specifically by the hippocampus. Additionally, when high levels of cortisol are present, the hippocampus is inhibited in regulating the amygdala. If the amygdala repeatedly triggers the HPA system, thereby releasing high levels of cortisol, the hippocampus continues to be impaired in recalling specific details of an event that may be beneficial in regulating the trauma response physically, emotionally, and behaviorally (VanTieghem et al., 2021).

Fight or Flight Response

The fight or flight response, and many of the behavioral consequences from a trauma response, may be related to the 10th cranial nerve, the vagus nerve (Feifer, 2019). The vagus nerve is the longest in the body, starting in the brainstem and running along parts of the body such as the pharynx, larynx, lungs, heart, and digestive tract (Wittbrodt et al., 2020). The vagus nerve activates the parasympathetic nervous system, responsible for immobilizing behaviors

initiated by the fight or flight response, by receiving sensory information from multiple regions of the body through afferent neurons (Porges, 2018). Because of the range of functions that the vagus nerve provides, it is theorized that the vagus nerve is split into three hierarchical subdivisions, making it easier for a person to regulate social behavior in response to stress: the dorsal vagal, fight or flight response, and ventral vagal (Porges, 2018).

First, the dorsal vagal is part of the parasympathetic nervous system that allows the body to shut down or freeze in a dangerous situation (Conroy & Perryman, 2022). Second, the fight or flight response is associated with a range of physiological responses including rapid heart rate, increased perspiration, high blood pressure, and increased blood flow to the extremities in preparation for sudden movement (Conroy & Perryman, 2022). While the vagus nerve is predominantly a part of the parasympathetic nervous system, the fight or flight response is largely initiated by the sympathetic nervous system (Porges, 2018), suggesting that the vagus nerve is involved in both processes. Lastly, the ventral vagal is related to social communication and engagement (Conroy & Perryman, 2022). Porges (2018) posited that successful social communication and ER can be achieved when the dorsal vagal and the fight or flight system have been suppressed. Behaviorally and emotionally, children have difficulty fluidly navigating relationships and social situations until the defensive nature of the vagus nerve is inhibited (Conroy & Perryman, 2022).

According to the hierarchical nature of polyvagal theory, each subdivision helps us respond and adapt to a threat. The neurons across all branches of the vagus nerve integrate information between motor- and social-based functioning related to core emotional states (Conroy & Perryman, 2022). When in a calm and safe environment, a child exhibits physiological and behavioral symptoms that reflect the situation, such as a slow heart rate and

lower blood pressure, indicative of the fight or flight response being inhibited (Feifer, 2019). However, if a child is in an environment that is not safe or nurturing, the defensive branches of the vagus nerve are left disinhibited, initiating the fight or flight system for survival.

Freeze Response

The distinction among the fight, flight, or freeze response is clear behaviorally (Wycoff & Franzese, 2019). However, there is limited research in understanding which response will be engaged among a pediatric population. In addition to the fight-flight-freeze system (FFFS), Kimbrel and colleagues (2016) identified that other motivational systems, the behavioral approach system (BAS) and behavioral inhibition system (BIS), similarly impact trauma-related behaviors, such as anxiety and difficulties in social situations among veterans. The BAS regulates reward-seeking behavior and the personality trait extraversion, whereas the BIS resolves conflicts, underlying anxious feelings and behaviors, and personality traits, such as neuroticism (Kimbrel et al., 2016). Neurologically, the BAS is mediated by levels of dopamine, which is related to the nucleus accumbens, the home of the reward center (Kimbrel et al., 2016). More specifically, low levels of dopamine put people at risk for engaging in sensation-seeking behavior and aggression when the FFFS is activated, specifically the fight response (Feifer, 2019). The BIS leads to greater inhibition of reward-seeking behaviors, greater likelihood to engage in anxious behaviors, and over-sensitization to punitive responses, reflective of the flight response option (Kimbrel et al., 2016; Porges, 2018).

The freeze response can occur when the fight or flight response is not activated and can be described as immobilization (Porges, 2018). Children who experience trauma may shut down and/or become depressed in response to an event or trigger (Yoshino et al., 2020). Neurologically, gamma-aminobutyric acid (GABA) neurons in the periaqueductal gray area are

associated with emotional defensiveness and behavioral inhibition, related to anxiety and conditioned fears regulated by the amygdala (Lowery-Gionta et al., 2018). In addition to inhibition of emotional and behavioral functions, motor responses are inhibited resulting in freezing (Conroy & Perryman, 2022). Cognitively, children who demonstrate a freeze response may engage in fantasy thinking. For example, they may hope they are somewhere else or create an alternative persona to emotionally respond to the trauma and preserve their own psyche (Feifer, 2019). The internalization of traumatic experiences further makes it difficult to engage in social interactions while the focus remains on survival (Kimbrel et al., 2016).

Environmental Influences on Trauma

Researchers continue to find support to claims that the environment changes brain chemistry, particularly in relation to safety and traumatic experiences (Levy et al., 2019). Environmental factors include parenting styles (Hoeve et al., 2011), attachment patterns (Gross et al., 2017), nutritional and sleep habits (Johnson et al., 2016), positive social relationships (Firoze & Sathar, 2018), and educational opportunities (Van Der Kolk, 2014). Moreover, the deficiency of these environmental factors can result in significant changes across systems. For example, childhood neglect can result in nutritional deprivation including iron deficiency (Johnson et al., 2016). Higher rates of iron deficiency have also been found among children living in poverty. Iron is needed for central nervous system processes that rapidly develop in early childhood (Johnson et al., 2016). Other than the frequent release of cortisol through the HPA system from various types of trauma, increased production and release of adrenaline can occur through the sympathetic-adrenal-medullary (SAM) system, another stress response system (Johnson et al., 2016). Both increased adrenaline and cortisol can lead to increased heart and breathing rates (Feifer, 2019). Prolonged environmental stressors, including neglect, family

conflict, and parental separation, can contribute to the consistent release of stress hormones, such as cortisol and adrenaline (Johnson et al., 2016; Peterson, 2018).

Neurological changes following prolonged trauma can be reflected in social interactions, including attachment patterns. For instance, children exposed to chronic neglect later display poorer impulse control, a range in negative emotionality, low self-esteem, and greater risk for mood disorders (Lim et al., 2012). Infants who have experienced severe neglect within the first 2 years of life, when attachment development is at a critical point, often develop insecure attachments and later lack awareness of social boundaries (Peterson, 2018). Children whose basic needs are repeatedly neglected implicitly learn that there is no caregiver to provide a sense of safety and security (Pinquart & Gerke, 2019). Children who are placed in institutional care also experience a reduction in oxytocin, the neuropeptide associated with regulation of the parasympathetic nervous system through calming after a stress response, identifying social cues, trust, and other prosocial behaviors (Grimm et al., 2014). The reduction in oxytocin leads to reduced metabolic function in brain regions responsible for social behaviors. Inhibitions in these regions may lead to difficulty bonding with caregivers (Grimm et al., 2014). The presence or absence of caregivers who are responsive to children's needs throughout a traumatic experience is imperative to mitigate the researched consequences. However, research among the different parenting styles is important to consider to determine the extent to which the presence of caregiver support limits the physical and psychological symptoms of trauma, and consequently, supports a resilient response.

Parenting Behaviors and Styles

Parenting behaviors influence children's environments and have a significant impact on child development with both immediate and long-term consequences. Interactions with

caregivers are some of the first conversations that link a child to their surroundings (Ebrahimi et al., 2017). Through the parent-child relationship, the child gains initial attitudes toward the environment, learns how to communicate with others, develops norms and expectations, and forms their own values (Ebrahimi et al., 2017). Early relationships developed between parents and children have been found to guide children's feelings, thoughts, and expectations in future relationships across the lifespan (Wilhelm et al., 2016).

Parenting behaviors reflect the parents' temperament and illustrate how parents think, feel, and act in raising children (Levin, 2011). Parenting methods were initially classified in terms of responsiveness and demandingness (Power, 2013). Responsiveness refers to the parents' level of intimacy and support they share with their child. Responsiveness has been associated with an increase in a child's assertiveness, self-esteem, and self-confidence (Ebrahimi et al., 2017). The demandingness factor of parenting refers to parents' expectations of their child to manage their own behavior and activities. In addition to these two factors that characterize parenting, researchers identified specific parenting styles. The terms responsiveness and demandingness are frequently used interchangeably with other similar terms, such as warmth, support, and care for the responsiveness construct, and control and overprotection to represent the demandingness dimension.

Baumrind (1971) identified three distinct parenting styles: authoritative, authoritarian, and permissive parenting styles. The authoritative parenting style reflects a high presence of warmth and control from the parent (Power, 2013). Children of parents who utilize the authoritative parenting style are described as assertive and self-reliant, eventually becoming more comfortable to act independently while asking for help as needed. The authoritarian style of parenting is characterized by poor responsiveness towards the child and high control of the

child and their situation (Levin, 2011). Children who are raised with an authoritarian style of parenting are described as discontented and frequently engage in withdrawal (Power, 2013).

Baumrind's (1971) permissive parenting style reflects a high engagement in responsiveness to the child, while exhibiting poor demandingness. Accordingly, children raised with a permissive parenting style are observed to have poor self-control and self-reliance (Power, 2013). Maccoby and Martin (1983) expanded on Baumrind's research of a fourth parenting style, the uninvolved style, which is also known as the neglectful parenting style. Following the two key characteristics of parenting styles identified by Baumrind (1971), Maccoby and Martin (1983) described this parenting style as low in both demandingness and responsiveness. Researchers have found that children with neglectful parents are vulnerable to delinquency, particularly between fathers and sons (Hoeve et al., 2011).

Authoritative Parenting Style

The authoritative parenting style is characterized by both care and control. Parents who utilize an authoritative parenting style attempt to direct their child's activities in a rational manner that supports agency (Lavrič & Naterer, 2020). Through this balance, parents provide a verbal method of communication, explaining their reasoning behind rules (Lavrič & Naterer, 2020). The authoritative parenting style is further described by a warm relationship, rational communication, and receptiveness (Lavrič & Naterer, 2020).

Overall, the authoritative parenting style has been best associated with the most positive developmental outcomes for children (Kuppens & Ceulemans, 2019). From these parental behaviors, children who have been brought up with an authoritative parenting style tend to develop high self-reliance, self-control, and autonomy (Lavrič & Naterer, 2020). Additionally, the authoritative parenting style is associated with an increase in children's self-esteem and is

protective against the development of a mood disorder (Nie et al., 2022). Moreover, children with authoritative parents had the lowest levels of conduct problems and conduct disorder (Kuppens & Ceulemans, 2019). Researchers have indicated that the value of rule setting continues to be more highly valued within the contexts of the authoritative parenting style, in contrast to overt disciplinary strategies (Yaffe, 2020). Later in life, children reared with an authoritative parenting style were found to have higher life satisfaction (Lavrič & Naterer, 2020). All these factors contribute to a more positive mental state throughout the lifetime (Nie et al., 2022).

Authoritative parenting style can also be further broken down into two subtypes: disciplinary and non-disciplinary (Kuppens & Ceulemans, 2019). The disciplinary subtype emphasizes caregivers that are described as "intrusive" and focus more on the behavioral strategies used for punishment while still maintaining the warmth and supportiveness characterized with the authoritative parenting style (Kuppens & Ceulemans, 2019, p. 177). This subtype uses a combination of positive and negative parenting styles, including high support and rule-setting with high disciplinary techniques (Kuppens & Ceulemans, 2019). However, these negative parenting behaviors can be better described as ignoring unwanted behaviors as an effective discipline technique (Yaffe, 2020). The disciplinary parenting substyle is defined by the more traditional authoritative parenting style that Baumrind (1971) originally identified. The non-disciplinary subtype is characterized by a value in rule and expectation setting to curb behavioral problems (Kuppens & Ceulemans, 2019). This subtype uses primarily positive parenting behaviors, including high support and rule-setting, in addition to parental involvement and autonomy-stimulating behaviors. The style is organized as a second-order positive parenting style within the authoritative style (Kuppens & Ceulemans, 2019).

The authoritative parenting style has been associated with impacts across areas of functioning, including emotional and academic functioning (Checa & Abundis-Gutierrez, 2018; Ebrahimi et al., 2017). Different parenting behaviors influence children's mental health. Employing an authoritative parenting style has been negatively associated with children's depression (Ebrahimi et al., 2017). Similarly, securely-attached children who have a warm, responsive relationship with their caregivers had a negative relationship with depression (Ebrahimi et al., 2017). Conversely, parents who struggle with mental health, including depression and anxiety, also exhibit changes to their parenting behaviors.

Authoritative parenting styles have been found to enhance academic performance among children and adolescents (Checa & Abundis-Gutierrez, 2018). Due to the trusting nature of this parenting style, parents are more likely to demonstrate expectations for schoolwork without being overly controlling (Checa & Abundis-Gutierrez, 2018). From a scholastic perspective, children benefit from parents who are supportive in the home setting, as well as warm, firm, and accepting of their academic needs (Pinquart & Kauser, 2018). Moreover, parents using an authoritative style were found to have positive relationships with academic achievement in more individualistic, Western cultures as well as more collectivistic, Eastern cultures (Pinquart & Kauser, 2018). This pattern in parenting behaviors across domains of functioning provide consistent findings of the positive effects on children's behavior and their behaviors as adults later in life.

Authoritarian Parenting Style

The authoritarian parenting style is defined by a high level of demandingness and a low level of responsiveness (Power, 2013). Baumrind (1971) defined authoritarian parents as attempting to shape, control, and evaluate their children's behaviors based on an inflexible set of

expectations. An authoritarian parenting pattern is generally characterized with less optimal children's outcomes related to emotional functioning later in life; however, the outcomes appear to be dependent on cultural contexts (LeCuyer & Swanson, 2017). Similarly, regarding behavioral outcomes, children with two authoritarian parents had the most maladaptive internalizing and externalizing behaviors and less prosocial behavior compared to other parenting styles (Yaffe, 2020). Examples include aggression, delinquent behavior, somatization, and anxiety (Hoeve et al., 2011). Additionally, children raised with an authoritarian parenting style were identified as having poor self-esteem (Pinquart & Gerke, 2019). Children with authoritarian style caregivers are often unable to internalize positive parental attitudes toward them because positive interactions are so infrequently experienced (Pinquart & Gerke, 2019). Similarly, children with authoritarian parents easily internalize negative parental attitudes about them as the psychological control and demandingness of children's behavior limits positive experiences (Pinquart & Gerke, 2019). However, this finding may be influenced by children's age, with younger children of authoritarian parents having more externalizing problems and school-age children having more difficulties with internalizing behaviors (Kuppens & Ceulemans, 2019). Developmental outcomes extend throughout the lifetime as well with the authoritarian parenting style. Janik McErlean and Lim (2020) found that authoritarian parenting led to more aggression in childhood and more self-reported aggression in emerging adulthood compared to those raised with other parenting styles. Authoritarian parenting styles also had a negative association with school performance (Checa & Abundis-Gutierrez, 2018). However, it is also important to consider the nature of behavioral problems in children outside of the context of parenting styles, such as their current developmental stage and changes in social demands and expectations regarding setting and time.

Additionally, when one parent uses an authoritarian parenting style and the other uses a different one, children are more prone to negative developmental outcomes (Hoeve et al., 2011). Specifically, Kuppens and Ceulemans (2019) identified this difference among children with conduct problems or hyperactivity concerns who had one authoritarian parent and one authoritative parent. Similarly, in comparison with other unfavorable parenting styles and behaviors, parents who are uninvolved but intrusive with their children may have better developmental outcomes than children with authoritarian parents (Yaffe, 2020).

Emotionally, authoritarian parenting styles have been linked to the development of alexithymia, a condition characterized by an impaired ability to communicate and identify emotions, as well as aggression (Janik McErlean & Lim, 2020). Researchers found that this relationship was stronger when assessing paternal authoritarian parenting while controlling for maternal authoritarian parenting (Janik McErlean & Lim, 2020). Similarly, children who exhibited alexithymia reported their parents to be more controlling and less caring, indicative of authoritarian parenting styles (Janik McErlean & Lim, 2020). Children with parents who display overly harsh discipline techniques have described them as aggressive, suggesting another source in which children's aggressive behavior from authoritarian parenting is reinforced (Janik McErlean & Lim, 2020). Moreover, authoritarian parenting has been connected to the suppression of children's verbal exploration and sharing of emotions (Janik McErlean & Lim, 2020). These parental behaviors are also likely to lead to deficient emotional awareness and the development of alexithymia (Janik McErlean & Lim, 2020).

Permissive Parenting Style

A parent with a permissive parenting style may exhibit love and warmth towards their child but little discipline or expectations enforced in response to a negative behavior or event

(Kuppens & Ceulemans, 2019). Baumrind (1971) identified that parents under the permissive parenting style grant more autonomy than control but emphasized that permissive parents are low in psychological control alone. Maccoby and Martin (1983) identified that permissive parents were both high in warmth and low in demandingness. Permissive parents are tolerant of their children's impulses, desires, and actions, and make few demands for mature behavior (Checa & Abundis-Gutierrez, 2018). They intend to be non-punitive and avoid confrontation with their children (Checa & Abundis-Gutierrez, 2018).

Similar to the authoritarian parenting style, children raised with a permissive parenting style displayed negative developmental outcomes (Kuppens & Ceulemans, 2019). Researchers have found that the permissive parenting style results in global impacts in emotional functioning, including internalizing and externalizing problem behaviors, social skills, self-confidence, and self-understanding (Williams et al., 2009). The permissive parenting style is also negatively associated with academic achievement (Checa & Abundis-Gutierrez, 2018). Despite permissive parents being described as warm yet indulgent, this parenting style was found to have a small positive relationship with the children's self-esteem (Pinquart & Gerke, 2019). Though parental warmth and autonomy tend to promote children's positive feelings towards the self, the lack of demandingness inhibits the development of self-efficacy and positive feelings toward the self (Pinquart & Gerke, 2019). Findings for positive effects for this parenting style appear to be inconsistent across research. Moreover, some researchers have identified that the permissive parenting style is associated with positive psychological adjustment (Gómez-Ortiz et al., 2018). These inconsistent results and interpretations emphasize the importance and difference in definitions of the permissive parenting style and how it is defined in research. For example, researchers who emphasized Baumrind's (1971) definition of this parenting style as less

controlling might have different results or interpret their results differently compared to those who utilize the definition according to Maccoby and Martin (1983) who described this parenting style as a combination of high warmth and low control.

However, researchers have found inconsistent results in identifying the presence of the permissive parenting style (Kuppens & Ceulemans, 2019). In reporting parenting styles, parents are likely to avoid endorsing negative parenting behaviors due to a social desirability bias, whereas children who are experiencing negative developmental outcomes are likely to over-endorse negative parenting behaviors (Smetana, 2017). This finding suggests that while previous research suggests the presence of the permissive parenting style, capturing the finding is difficult.

Neglectful Parenting Style

The uninvolved, or neglectful, parenting style is characterized by both low demandingness and low responsiveness (Power, 2013). Children raised with the neglectful parenting style are described as having the least desirable developmental outcomes (Power, 2013). The neglectful parenting style was also found to have a small negative association with self-esteem in children (Pinquart & Gerke, 2019). This finding is best explained due to the lack of involvement from parents in their child's life. Though other parenting styles have been established as having a negative effect on self-esteem, the neglectful parenting style has more negative effects on developmental outcomes than permissive parenting (Maccoby & Martin, 1983). Researchers have previously hypothesized that the neglectful parenting style would be worse than the authoritarian parenting style regarding self-esteem due to the presence of control (Pinquart & Gerke, 2019), suggesting that the presence of psychological control would still stimulate the development of competence while inhibiting undesired behaviors. However,

correlational studies have indicated that the relationship between the neglectful parenting style and authoritarian parenting style and self-esteem, respectively, were similar (Pinquart & Gerke, 2019).

Behaviorally, the neglectful parenting style has been associated with increased delinquency during childhood (Tapia et al., 2018). Children with neglectful parents often lack adult supervision or take on developmentally inappropriate responsibilities, such as having to take care of younger siblings themselves (Tapia et al., 2018). Neglectful parents detach themselves emotionally from their children and provide minimal response to their children's needs, becoming parent- rather than child-centered (Bi et al., 2018; Tapia et al., 2018). They tend to overlook children's access to harmful objects and materials, such as illicit drugs and weapons, providing little to no information on boundaries or expected behavior (Bi et al., 2018). Across all four parenting styles, the neglectful parenting style is most likely to result in children being involved in delinquency (Hoeve et al., 2011). Similarly, children and parents of the neglectful style were more likely to engage in conflict with one another compared to the other parenting styles (Bi et al., 2018). This conflict was also found to be more intense in comparison to parent-child conflicts that occur with other parenting styles (Bi et al., 2018). Researchers indicate that this pattern may occur due to children making demands to a neglectful parent who is otherwise withdrawn and has minimized their needs (Bi et al., 2018). Conflicts may also occur because children with neglectful parents are more likely to engage in criminal behavior, which is also a variable that might lead to more conflict between parents and their children (Bi et al., 2018).

Though the neglectful parenting style is associated with poor developmental outcomes and specific constructs in child development, such as self-esteem and academic achievement, there is limited research on the neglectful parenting style (Checa & Abundis-Gutierrez, 2018;

Pinquart & Gerke, 2019). The limited amount of research available on this parenting style is likely due to Baumrind (1971) not identifying this parenting style in her own research. It was not formally identified until Maccoby and Martin (1983) expanded on Baumrind's original studies. Additionally, the widely used parenting style measures do not include the neglectful parenting style directly, but rather address it through the more descriptive parenting behaviors associated with this pattern, including low warmth and low control (Pinquart & Gerke, 2019).

Other Parenting Styles

Despite the identification of warmth and support in contrast to demanding and controlling parenting behaviors in association with the four different parenting styles, researchers have indicated that it is similarly important to consider using a variety of parenting styles when raising children. Though a parent might best be described by high warmth and demandingness, such as with the authoritative parenting style, there are variations in those characteristics. For example, one parent may use more positive parenting practices (e.g., rule setting) to prevent non-preferred behaviors alone, whereas another parent may utilize a combination of more positive parenting practices and a clear discipline plan following a behavior (Kuppens & Ceulemans, 2019), or the traditional authoritative parenting style and the positive authoritative parenting style. Though the differences may be small when considering the variability within a single parenting style, differences may occur more frequently across two parents using the same parenting style, such as the authoritative parenting style.

Researchers have suggested that it is also important to consider joint parenting styles, where similarities and differences in parenting styles and behaviors are considered in co-parenting households (Kuppens & Ceulemans, 2019). In comparison, parents are more likely to have similarities in parenting behaviors than differences. Though parenting behaviors have been

previously defined in accordance with the four parenting styles, these characteristics have also been found to cross the typical patterns of the parenting styles (Yaffe, 2020). However, differences were found to be greater between mothers and fathers, but that this was reflective of differences within a positive parenting concept, such as the limit to which rule setting is enforced (Yaffe, 2020). Countering more traditional gender and role theories, two parents have been found to have small to moderate differences, nonetheless, indicating an associative relationship across parenting styles among couples.

Current research available has provided limited insight into different, coexisting parenting styles between two parents. Most research available focuses on a single parenting style used, whether by one parent or in one family as a collective unit. However, it is important to consider the interactions between different parenting styles used in a single household or family unit. In a two-parent household, children are influenced by the combined practices and behaviors of both parents (McKinney & Renk, 2008). Similarly, the additive effect in which the use of the same parenting style emphasizes the known consequences is considered when identifying how parenting styles interact and impact children. For example, the positive effects of child development from the authoritative parenting style are more evident when compared to households in which one parent uses an authoritative parenting style and the other uses a different style (Kuppens & Cuelemans, 2019). McKinney and Renk (2008) identified four joint parenting styles from adolescent self-reports on parenting behaviors associated with authoritative, authoritarian, and permissive parenting. They identified congruent authoritative parenting (both parents use an authoritative parenting style), congruent authoritarian parenting (both parents use an authoritarian parenting style), authoritarian father-authoritative mother combination, and a permissive father-authoritarian mother combination (McKinney & Renk,

2008). However, researchers have still left the separate coexisting parenting dimensions undefined.

The mixed methods use of parenting behaviors similarly shows impacts to children's developmental outcomes. Among parents who use the same parenting style, Kuppens and Ceulemans (2019) identified that developmental outcomes from the different parenting styles are amplified. For example, children with two authoritarian parents had less favorable developmental outcomes compared to children with one authoritarian parent. Similarly, children with two authoritative parents had more favorable developmental outcomes than any other combination of parenting styles (Kuppens & Ceulemans, 2019).

Cultural Variations

Some researchers have found that the associations and child outcomes of parenting styles are universal, such that they occur and are defined similarly across cultures (LeCuyer & Swanson, 2017; Pinquart & Gerke, 2019). For example, parental warmth and control associated with authoritative parenting styles have been found to satisfy children across cultures, whereas the low parental warmth and high levels of coercion related to authoritarian parenting styles is not reassuring nor satisfying (Pinquart & Gerke, 2019). However, culture does have an impact on the development and implementation of parenting styles. Power (2013) reported that parents from different cultures may exhibit different parenting forms. For example, while most White parents employ an authoritative parenting style, Black parents more frequently engage in an authoritarian parenting style (Greening et al., 2010). However, among Black families, authoritarian parenting has been associated with more positive effects compared to White families (LeCuyer & Swanson, 2017), a relationship still evidenced when controlling for other demographic variables, including income, age, and education (LeCuyer & Swanson, 2017).

Examples of positive effects found more often among Black families who use an authoritarian parenting style include increased autonomy, social maturity, and self-regulation, particularly in children as young as 3 years (LeCuyer & Swanson, 2017). For Black school-age children, benefits from authoritarian parenting include reduced suicidal behavior in the context of depression, increased respect for parental authority, less deviant behaviors, and higher academic achievement (Greening et al., 2010; LeCuyer & Swanson, 2017). These results do not generally indicate that authoritarian parenting styles are harmful for White families and beneficial for Black families; rather the different parenting styles need to continue to be studied with regards to the environmental context, including culture. These findings demonstrate the importance of assessing the levels of parental behaviors and attributes that define parenting styles across ethnic groups, as well as the potential differences in association between attributes when comparing ethnic groups (LeCuyer & Swanson, 2017).

Differences in parenting styles within cultures for families of color similarly occur. As these four parenting styles have been identified across predominantly European White cultures, differences occur in others with respect to previously identified patterns. For example, among Black parents, researchers have found that the authoritarian parenting style is more frequently utilized in comparison to European White parents (LeCuyer & Swanson, 2017). However, there remains more negative outcomes in the use of the authoritarian parenting style and more positive outcomes with the authoritative parenting style among Black families (LeCuyer & Swanson, 2017). For example, LeCuyer and Swanson (2017) identified less optimal maternal limit setting behavior among Black families, consistent with the authoritarian parenting style. Similarly, less optimal children's self-regulation skills were evident, particularly in the context of children's responses to their mother's limits (LeCuyer & Swanson, 2017). LeCuyer and Swanson (2017)

posited that these findings were also aligned with authoritative parenting styles, but that this may only be true when compared to other Black mothers. When compared to White mothers, Black mothers are found to have more authoritarian attitudes and values in which previous positive effects may be identified (LeCuyer & Swanson, 2017). However, when compared to other Black mothers, researchers identified the expected relationship between higher maternal authoritarian attitudes and less optimal parenting behaviors and children's outcomes (LeCuyer & Swanson, 2017). Similarly, these distinctions in between-group and within-group differences are important to consider when researching parenting styles and behaviors.

Neural Consequences of Parenting Styles

Throughout the lifespan, particularly in childhood, parenting styles equal in responsiveness and demands are optimal to facilitate healthy behaviors. Parenting styles are a part of the human experience, and such processes continue to have an impact on neural development (McEwen & Morrison, 2013), which supports the development of prosocial behaviors modeled and taught by caregivers. Prosocial behaviors such as empathy, the ability to relate to and reflect on others' feelings, are helpful in various social contexts, including responses to a stressful event (Levy et al., 2019). Social neuroscience research indicates that empathy is supported by many neurological structures, including the somatosensory cortex, motor cortex, anterior cingulate cortex, and sensorimotor cortex, allowing a person to be aware of their own body and brain, while integrating higher-order regions of the prefrontal cortex (PFC) to understand others' perspectives (Levy et al., 2019). As caregivers are meant to be responsive to a child's physical and emotional needs, children are also responsive to a caregiver's ability to resonate and relate to their experience (Levy et al., 2019). The synchrony in emotional state between the parent and child provides a foundational model that the child can use

later in life for empathy (Levy et al., 2019). Levy and colleagues (2019) found that mothers who engaged in empathy towards their children mediated the consequences of chronic trauma in early childhood, despite the neurological effects supported by previous research.

Emotion Regulation

Developmental and cognitive psychologists study ER as it changes across the lifespan and improves additional executive functioning abilities (Ullman et al., 2014). Cognitive functions serve a role in ER, such as the ability and means by which people monitor, express, and adjust their emotions to achieve an identified goal (Caiozzo et al., 2018). While the effectiveness of ER is dependent on children's cognitive skills, this construct has additional implications on resilience. Children without deficits in ER can identify the emotions they are experiencing and adjust them to seek the resources and support needed to alleviate the negative cognitive and emotional consequences of stress (Caiozzo et al., 2018). Additionally, children whose caregivers display adaptive ER skills are likely to unintentionally reinforce these strategies and behaviors (Caiozzo et al., 2018). Accordingly, children can foster their resilience in addition to parents providing supplemental support.

Extended Process Model

Theoretically, ER can be conceptualized from multiple perspectives. Gross (2015) developed the extended process model identifying the fluidity in which ER can be utilized at any time when emotions are initiated and identified. For example, modal models of emotions are separated into four different stages, which identify the passage of time as emotions develop and resolve (Naragon-Gainey et al., 2017). The stages include the event in which the emotion was elicited, attention given to that event, interpretation of the meaning of the event given a person's current situation and goals, and an emotional response that has either behavioral, physiological

and/or experiential components (Naragon-Gainey et al., 2017). ER can be utilized at any stage of emotion generation, which may include avoidance of the situation altogether, adjusting a stimulus in the situation, shifting attention away from the stimulus, a cognitive shift either through reappraisal or acceptance, and response adjustment such as avoiding the situation again in the future (Roth et al., 2019). However, depending at which stage a strategy is implemented, more efforts in ER might need to be made and result in different outcomes across events (Naragon-Gainey et al., 2017). Gross (1998) identified that while there are antecedent- and response-focused ER strategies, antecedent-focused strategies are more likely to lead to successful ER than response-focused strategies. From the temporal perspective, researchers have determined that people tend to use, or overuse, strategies consistently (Gross, 2015). In other words, people tend to use the same ER strategy when a problem is identified rather than using other available ER strategies because of the learned effectiveness of one antecedent-focused strategy and the relevance of the time in when the strategy is used (Gross, 2015).

Strategy-Based Model

Another model that conceptualizes ER is according to specific strategies and their characteristics and correlates, or strategy-based models (Naragon-Gainey et al., 2017). Researchers have previously identified ER strategies that have negative associations with psychopathology as adaptive, whereas strategies that are positively related to psychopathology are considered maladaptive (Aldao & Nolen-Hoeksema, 2012). Adaptive ER strategies may be considered as utilizing cognitive reappraisal, acceptance, or mindfulness (Aldao & Nolen-Hoeksema, 2012). Maladaptive ER strategies include experiential avoidance, behavioral avoidance, or rumination (Aldao & Nolen-Hoeksema, 2012). However, labeling ER strategies as solely adaptive or maladaptive may be reductive, acknowledging that any ER strategy can be

either successful or unsuccessful given a particular circumstance (Aldao, 2013). Rather than rigidly using adaptive strategies over maladaptive strategies, people should use all strategies flexibly that match the context for successful ER (Aldao, 2013). It is also helpful to think of ER strategies as being either positively or negatively related to symptoms of psychopathology and distress (Naragon-Gainey et al., 2017). This approach helps eliminate the consideration of the intrinsic property of the strategy itself and shifts focus towards the use of strategies that are dependent on the situation (Messina et al., 2021). Therefore, it is further supported to have multiple strategies available to use in a distressing situation.

Ability-Based Model

The ability-based model organizes strategies according to dispositional abilities that facilitate ER (Naragon-Gainey et al., 2017). This model illustrates an individual's ability to engage in ER strategies across different strategies and situations, regardless of relevance of the situation and type of strategy used (Thomas & Zolkoski, 2020). From an ability-based perspective, the presence of a strength in an ability related to ER may lead to success in ER and stability in psychological well-being. Similarly, a deficit in any ability that supports ER may result in problems with ER and psychological distress (Thomas & Zolkoski, 2020). In contrast to strategy-based models, ability-based models are more dependent on the efficacy of ER strategies rather than the selection of ER strategies that can lead to a resilient response. Various ability-based models include different abilities and may vary depending on how they are being measured, such as either assessing for the presence or absence of an ability.

Relating to Emotions

For example, how well a person can relate to their emotions can reflect their ability to engage in ER (Morris et al., 2017). Whether an individual can accept who they are and how they

are feeling at the present moment is associated with adaptive ER (Roemer et al., 2015). This characterization is also associated with mindfulness (Roemer et al., 2015). The more attentive and accepting someone is of their own emotions, the more likely they are to utilize ER skills (Roemer et al., 2015). Aspects of mindfulness, including being aware and accepting current emotions and experiences, allow for a person to improve their sensitivity of when to implement regulation strategies, and, therefore, adjust severity of a present emotion (Roemer et al., 2015). Additionally, the level of acceptance of current emotions might reduce the negative valuation of certain emotional responses (Roemer et al., 2015). Conversely, personality traits including negative affectivity have been negatively associated with nonacceptance of emotional responses (Pollock et al., 2016). A significant negative relationship was also found with negative emotions, denial of experiencing emotions, and poor ER skills (Pollock et al., 2016).

Goal-Directed Behavior

Another ability determining efficacy or difficulty in ER skills includes engaging, or lack thereof, in goal-directed behavior. This ability indicates that just because a person may have the skills to use an ER strategy, does not mean they are motivated to use it. Tamir (2016) suggested that it is important to understand the motives behind ER. Motives in ER reflect the reasons why people want to regulate their emotions (Tamir, 2016). Furthermore, motives for regulating emotions help shape and guide the process and outcomes of ER, such as which strategies are used and whether it is ultimately successful (Tamir, 2016). Specific to ER, motives are also beneficial in that they help direct people towards specific goals for ER. Goals in ER reflect a specific desired outcome of ER and behaviors that help achieve these goals are considered to be goal-directed behavior (Tamir, 2016). From prioritizing goals, motives help support goal-directed behavior and lead to selection of specific goals. For example, when influenced by self-

interested motives, people are more likely to select emotions that are pleasant and avoid emotions that are unfavorable (Tamir, 2016). However, when a person's motives are instrumental, people are more likely to select emotions that are more helpful in achieving their goals, whether positive or not (Tamir, 2016). Therefore, what people want to feel may be dependent on how motivated they are and how intensely they are to pursue their motivations (Tamir, 2016).

Motives in ER also influence the behaviors in which emotional goals are pursued and achieved. They help determine the intensity in which people strive to achieve their goals (Gollwitzer et al., 2012). Moreover, stronger motives in ER likely result in increased commitment to emotional goals (Tamir, 2016). The more people are committed and have determined their commitment to a selected goal, the more likely they are to accomplish it (Gollwitzer et al., 2012). However, this relationship was also found among people who had emotional goals that involved unpleasant feelings, such as anger (Gollwitzer et al., 2012). These findings suggest that desired outcomes set emotional goals and attain these goals, regardless of increasing positive or negative emotions (Tamir, 2016). Implications for motives with ER further include the likelihood of motivation driving ER, such that the more people want to achieve a goal the harder they would attempt to use ER strategies (Tamir, 2016). Goal-directed behavior can be considered a consequence of how motives of ER alter the desirability of emotional experiences (Tamir, 2016). However, when people exhibit difficulties in engaging in goal-directed behavior, they struggle to attain their goals or identify the reasons for accomplishing a goal.

Impulsivity

Impulse control difficulties can also determine the salience of ER. Similar to the relationship with acceptance of emotions, fewer impulse control difficulties and mindfulness are strongly associated (Cheung & Ng, 2019). Additionally, mindfulness is associated with greater, but not necessarily more successful, use of ER (Cheung & Ng, 2019). Mindfulness and ER have been shown to relate with mental health, with more use of mindfulness and ER strategies being negatively correlated with anxious and depressive symptoms (Carsley et al., 2018). Conversely, increased symptoms of anxiety and depression have been associated with mindlessness, impulse control difficulties, and emotion dysregulation (Cheung & Ng, 2019). These characteristics have similarly been found to predict impulse control difficulties (Cheung & Ng, 2019). Furthermore, impulse control difficulties have been found to be significantly related to limited access to ER strategies (Cheung & Ng, 2019). Previous situations can further influence a person's ability to control impulses and use appropriate ER strategies for future stressful events across the lifespan (Owens et al., 2018; Young et al., 2019). For example, inhibited impulse control has been found to include descriptions of losing control over behaviors and and acting out of control (Gratz & Roemer, 2004). Individuals who have difficulty controlling their impulses and, ultimately regulating emotions, were found to exhibit depressive symptoms and avoidant behaviors for an extended period of time (Owens et al., 2018). These findings suggest that impulse control continues to be reflective of executive function, including ER.

Emotional Awareness

In addition to situational awareness, a person's ability to show awareness of their own emotions provides insight to ER. ER is a process that requires a relationship with multiple aspects of the self, including understanding the relationship with the physical body,

psychological mindset, and feelings (Price & Hooven, 2018). Though the presence of emotional awareness has been associated with successful ER (Roemer et al., 2015), there is also evidence between disrupted awareness of emotional and sensory information, or interoceptive awareness, and difficulties with ER (Price & Hooven, 2018). Being receptive and responsive to interoceptive information results allows a person to be more aware of emotion cues early (Price & Hooven, 2018). As a result, a person can better process, interpret, and identify ER strategies following an initial stressful event. Additionally, interoception has a strong relationship with stress and the stress response (Schulz & Vogele, 2015). In addition to interoceptive awareness facilitating ER, researchers have identified further evidence of support for health and well-being (Price & Hooven, 2018). Both theoretical and intervention models of mindful awareness have been found to increase the use of ER.

Skill in Using ER Strategies

Though these previous abilities have supported the use of ER strategies, individuals have exhibited difficulties in accessing these ER strategies. Furthermore, a lack of these abilities may be cumulative in their effects to impact ER such as having difficulties accessing ER strategies when faced with struggles to be aware and accept negative emotions. For example, people who attempt to accurately identify their emotions impact the successful facilitation of effective ER (Kalokerinos et al., 2019). Differentiating between potential emotions can help provide a person information in deciding which ER strategy to utilize (Barrett & Gross, 2001). However, when there are difficulties in comprehensively understanding complex emotions, it can impact the selection of ER strategies (Kalokerinos et al., 2019). Though it is still possible for an individual who has undergone a stressful event to be successful in ER, accessing their known ER strategies becomes more difficult (Kalokerinos et al., 2019). Previous use of ER strategies was originally

hypothesized to be indicative of future use of ER strategies, but researchers suggested implications of this finding such that if the previous abilities and processes are hindered, then the use of strategies is not guaranteed (Kalokerinos et al., 2019). Moreover, the ability to determine which strategies will best serve an individual in a given situation can be hindered when in a stressful situation and is only considered healthy ER when used in the appropriate contexts (Haines et al., 2016). Therefore, it is not just the access of any ER strategies that is important to consider, but the identification and use of situation-dependent strategies, whether adaptive or maladaptive (Haines et al., 2016).

Emotional Clarity

Lastly, exhibiting a lack of emotional clarity can hinder the successful implementation of ER as well as other abilities that contribute to ER. A lack of emotional clarity can be described as an inability to identify or define an internal emotional experience (Cooper et al., 2018). From other factors that have been supported as being related to ER, lack of emotional clarity further impacts access to these abilities in response to a stressful event (Doolan et al., 2017). For example, Doolan and colleagues (2017) identified an association between a lack of emotional clarity and a reduced sense of agency, which was also related to difficulty in accessing ER strategies to aid in stressful situations. Additionally, people who had experienced a previous traumatic event exhibited continued difficulty in accessing ER strategies and emotional clarity (Doolan et al., 2017). These characteristics in association with a lack of emotional clarity are further related to increased intensity of posttraumatic stress and symptoms of posttraumatic stress disorder (PTSD; Doolan et al., 2017). With continued high reactivity to past traumatic experiences and concern for repeated stressors, an individual will have difficulty focusing on their present emotional experiences and how to manage their responses to them. Lack of

emotional clarity is further described by having an external locus of control, focusing on how factors that cannot be controlled impacts a person rather than what a person can do to mitigate the stressors from a stimulus (Cooper et al., 2018). Diverting attention towards external stimuli and away from internal experiences and strategies prolongs impacted mental well-being.

Additional Cognitive-Related Functions

Other cognitive processes can impact engagement in adaptive ER skills. Mardo and colleagues (2019) discussed how external emotional cues negatively impact individuals' perception of visual stimuli. Previous experiences connected to strong emotions, such as anger and sadness, alter future perceptions of similar visual stimuli. However, individuals who exhibited more anxiety were able to attend to prioritized stimuli over those that were mundane or insignificant (Mardo et al., 2019). When emotional stimuli are present, those who are more likely to anticipate future aversive events may utilize adaptive ER strategies to attend to more neutral stimuli. This shift in focus may promote an additional utilization of bottom-up processing to quickly identify threatening stimuli and then shift their attention to neutral stimuli, thereby engaging in ER (Sussman et al., 2016). From the prioritization of perceptual stimuli in combination with related emotional cues, the individual creates a bias for visually threatening stimuli.

How threatening stimuli are identified and other relevant information is processed should be considered from other perspectives. Information processing has two different approaches: top-down and bottom-up processing (Dijkstra et al., 2017). Top-down processing is an approach of information processing in which a general conceptualization of a stimulus is applied to and affects the assessment of other incoming stimuli in the perceptual process (Gaspelin & Luck, 2018). Comparatively, bottom-up processing is a method of information processing in which a

stimulus initiates higher level processes involved in identification and interpretation (Dijkstra et al., 2017). Following a perceived threatening event, an individual may begin to focus on the details of knowledge related to the traumatic event (Sussman et al., 2016). This better reflects top-down processing and consideration of endogenous factors, or variables determined by the event (Sussman et al., 2016). Consideration of both bottom-up processing and top-down processing is critical when considering anxiety as it relates to adverse experiences and their responses to future cues (Sussman et al., 2016). As these processes impact behavioral responses, individuals may have trouble achieving PTG and resilience. However, the extent of the effects on the perception of highly-charged emotional stimuli, such as trauma, remains unclear regarding resilience in children across races. Understanding the differences or similarities in resilient responses among pediatric minority populations remains important to investigate to further understand further what protective and risk factors contribute to these responses and what interventions can be implemented to further support resilience in real-world settings.

Conversely, individuals with deficits in ER have implications regarding additional neurocognitive constructs. For example, attention is impacted by poor ER through a preference of focusing broadly or narrowly (Feifer, 2019). Depending on how a person feels in each moment, their emotional state can predetermine if they can focus on the broad surroundings of the environment or fixate on the details (Huntsinger, 2013). Contingent on which approach is accessible, individuals exhibiting happiness are likely to attend to stimuli that match the available contexts (Huntsinger, 2013). In contrast, sad people are more likely to attend in the opposite manner. For individuals with deficits in ER displaying sadness, attention to details that do not match their environmental contexts is expected (Huntsinger, 2013). Therefore, these

individuals may exhibit difficulty in engaging in additional coping strategies, such as cognitive reappraisal and problem-solving skills conducive to resilience.

Additionally, ER can impact a person's attention by causing them to have difficulty with selected attention towards certain emotional cues. People with depressive symptoms are more likely to exhibit an attentional bias towards depressive stimuli, such as sad facial expressions (Duque & Vázquez, 2015). More specifically, in one study, depressed individuals spent more time and attentional resources processing emotional information specific to sadness (Duque & Vázquez, 2015). As resilience is described with characteristics such as PTG and achieving a predetermined goal, individuals who continue to engage in sadness and focus on depressive stimuli may not be able to shift their emotions and focus to succeed.

Poor ER is also associated with deficiencies in long-term storage and retrieval. Though resilience can occur with a combination of varying factors, some individuals achieve resilience by focusing on an achievable goal for the future in combination with ER strategies and additional support. To visualize the future, retrieving some details about the past is required. Both processes of imagining the future and reflecting on the past require use of episodic memory (Schacter & Madore, 2016). Ideas about the future constructed from imagination are suggested to be based on retrieved details of the past that help create potentially novel events. By engaging in this process, individuals utilize their problem-solving and creative thinking skills to visualize their future following a past event, whether positive or negative (Schacter & Madore, 2016). However, individuals with poor ER may have difficulty engaging their episodic memory as it involves retrieving potentially traumatic details from past experiences. Additionally, the neurological effects from trauma, including those involving the HPA axis, amygdala, and hippocampus, make it difficult to utilize episodic memory successfully (Feifer, 2019).

Furthermore, as visual stimuli impact thought processes, the physical responses and behaviors of individuals similarly impact them. Nair and colleagues (2015) reported that embodied cognition—how sensory, motor, and affective states can impact cognition and emotion—can influence emotional responding. The consideration of an individual's physical responses to emotional antecedent events provides a more thorough understanding of overall psychological well-being. For example, as individuals experience innate emotions, those that people across cultures experience, such as sadness, and difficulty self-regulating, their physical responses may reflect these emotional states, such as slouching. The muscular activity that is utilized or inhibited similarly reflects the current emotional state and the ability to adjust to the situation (Nair et al., 2015).

Resilience

Resilience can vary across the lifespan, depending on previous experiences, one's current age of psychological and physical development, and available resources. Following birth, infants enter a phase of dependency and are placed with adults entrusted to ensure their survival as they continue to develop basic cognitive skills (Callaghan et al., 2013). By developing a strong relationship in a nurturing environment, parents and guardians contribute to their infant's capacity for resilience. While considering the presence of this connection and support in the immediate environment, when infants are exposed to adversity, plasticity allows them to engage in adaptation. More specifically, infants experiencing stress are subject to structural and functional changes in the prefrontal cortex, which impact self-regulation and goal-directed behaviors (McEwen & Morrison, 2013). When the stress stops, infants develop resilience by a reversal in the neurological changes of the prefrontal cortex. The structural and functional changes that occur from stress are reversible due to plasticity (McEwen & Morrison, 2013). This

temporary state in structural and functional changes of the prefrontal cortex suggests that if these conditions are consistent through the lifespan and the neural plasticity can be targeted to support the behaviors, a similar resilient outcome can occur.

As children develop, their surrounding available supportive environment expands to include friends and teachers in addition to parents (Raymond et al., 2018). Starting in infancy, when a child is subjected to adversity but has access to a supportive social network, they are likely to demonstrate a resilient response. However, this response is dependent on the interactions between a variety of stressors and protective factors that lead to resilience. For example, children who are exposed to violence may experience a resilient response. However, the protective factors that support the potential for an individual to engage in resilience and the coping strategies that they learn throughout infancy and early childhood may vary (Yule et al., 2019). Moreover, as parents continue to develop the relationship with their children by engaging in socialization, they influence children's awareness of appropriate responses to stressors as they experience them. Additionally, children can develop an awareness of ER by observing their parents (Schofield et al., 2014). This awareness results in an accumulation of knowledge regarding the development of ER and coping strategies (Speidel et al., 2020).

Philosophical and Historical Foundations of Resilience

Resilience researchers commonly utilize humanistic and positive psychology as their primary theoretical orientations (Joseph, 2019; Ungar, 2019). Though these two approaches may focus on the strengths individuals have when either surviving or thriving following adversity, they differ from one another in consideration of internal and external influences (Friedman & Robbins, 2012). Rogers (2007) and Maslow (1971) are significant contributors to the field of humanistic psychology. They proposed that individuals' highest level of development is self-

actualization, the tendency for humans to thrive toward expressing their full potential when in a supportive environment and a process believed to be inherent in nearly everyone throughout their lifespan (Friedman & Robbins, 2012; Joseph, 2019; Maslow, 1971). Though Maslow's (1971) theory posited that few people would achieve self-actualization, the drive to achieve it resonates with most people. Additionally, Rogers proposed a person-centered approach when considering individuals' experiences and treatment from a humanist perspective (Joseph, 2019). Due to constantly working towards self-actualization, the individual is motivated to improve self-determination and constructive social behavior (Joseph, 2019). While humanistic psychologists argue for the utilization of a holistic approach and a person-centered perspective, other perspectives such as positive psychology provide a more optimistic explanation of the occurrence of resilience.

Martin Seligman is considered the founder of positive psychology, an approach that emerged as an orientation that provided a new understanding of human potential and the promotion of well-being (Seligman & Csikszentmihalyi, 2000). While research before the development of positive psychology provided information on how to alleviate the symptoms experienced following trauma, it did not provide support or understanding of how to encourage psychological well-being. Positive psychologists focus on three central concerns: positive characteristics, positive experiences, and positive institutions (Friedman & Robbins, 2012). Similarly, positive psychologists focus on the occurrence of happiness with an emphasis on hedonistic happiness, a trend focusing on virtues and characteristics in isolation, as opposed to the holistic approach within humanistic psychology (Friedman & Robbins, 2012). Moreover, positive psychologists approach resilience as an individual virtue itself, whereas humanistic psychologists consider resilience a higher-order virtue comprising numerous characteristics that

are yet to be considered more thoroughly, individually and uniformly (Friedman & Robbins, 2012). Both historical perspectives address similar concerns and goals regarding the human experience and resilience, while emphasizing key differences in the interpretation of these experiences.

History, Context, and Theoretical Framework

The focus on resilience and trauma research has varied over the past century. In the initial scholarship, researchers studied participants who underwent threats to their physical safety and well-being, such as following the Blitz in London during World War II and the violence and genocide exhibited during the Holocaust (Cohen et al., 2003; Ungar, 2019). However, this research focused primarily on the physical manifestation of resilience, such as the persistence of spirit, self-determination, and use of coping strategies despite repeated horrific experiences (Ungar, 2019). Nevertheless, researchers aimed initially to define resilience as a phenomenon and to group influencing factors by focusing on people subjected to severe humanitarian crises impacting physical and psychological well-being (Masten & Barnes, 2018). During the mid-20th century, researchers worked on expanding the definition of resilience and understanding the factors that explained why individuals engaged in different adaptive or maladaptive coping strategies that yielded improvement in psychological well-being (Ungar, 2019). Researchers better understood the interaction by operationalizing the influencing factors individually as broad factors that help explain the phenomenon of resilience. Moreover, researchers aimed to develop quantitative and qualitative methods to help measure resilience (Ungar, 2019). As research methods became more thorough, the focus shifted to investigate interactions between individuals and their environment and how these interactions may affect levels of resilience.

Although early researchers such as Werner (1995), Rutter (1989), and Masten (2001) defined resilience across fields, the founder of psychological resilience and resilience theory is generally considered to be Norman Garmezy, who initiated the start of research on resilience in psychology (Shean, 2015). Garmezy, a clinical psychologist by education, primarily studied resilience in children according to their psychopathology and looked for a pattern of characteristics (Ledesma, 2014). Within the field of developmental psychopathology, the occurrence of resilience reflects the ability of a child to overcome adverse experiences while maintaining a sense of self (Ledesma, 2014). Furthermore, Garmezy expanded the concept of resilience from a narrow to a wide view with complex understanding. As opposed to describing resilience as being immune to the consequences of negative life events, Garmezy (1991) emphasized an individual's ability to reflect their motivation to recover from prolonged exposure to stress. For example, children and families exposed to the aftermath of the Persian Gulf War were described in the context of their recovery from this traumatic experience, rather than focusing on the context of the event itself (Garmezy, 1991). From his ecological research, Garmezy posited that resilience is composed of three key elements: individual factors, familial factors, and support factors (Shean, 2015). At the individual level, Garmezy suggested that each child has characteristics that support the ability to engage in resilience, such as temperament, responsiveness to others, and current cognitive development.

Moreover, Garmezy developed resilience models as they applied to the circumstances in which the phenomenon occurred. First, Garmezy developed a model that described the interaction between the stressors and attributes that result in compensation for the adverse experience by the positive experience (Shean, 2015). In his compensatory model, Garmezy highlighted an example in which a child emerged resilient in the aftermath of a high-stress home

environment that was mediated by a close relationship with another family member. Garmezy described a similar model in which he illustrated the consideration of specific current protective and risk factors to which a child was exposed, including the presence of a support system and previous trauma exposure (Shean, 2015). Lastly, Garmezy detailed the challenge model, a curvilinear relationship in which the stressors enhance adjustment, but not at extremely low or high levels. This model illustrates that some stress helps children develop and enact coping skills and utilize community resources (Shean, 2015).

More recently, researchers have considered the findings from the first two waves of resilience-related research, including the different factors and the interaction between these factors that can lead to resilience. Described as the third wave of resilience research, investigators aimed to design experiments to address resilience directly and the positive impacts adverse experiences may have throughout development (Masten, 2001). For example, Masten (2001) determined that while the protective factors that are empirically linked to resilience appear to occur with rarity, in reality, they occur frequently. Therefore, resilience is a process that occurs more often than perceived. The focus from this line of research emphasizes that resilience is not limited to a seemingly extraordinary population with a certain combination of set characteristics (Masten, 2001). Instead, modern research has established the understanding that individuals have unique personal strengths that support them in the occurrence of PTG (Hamby et al., 2016). While this shift has changed the focus and direction of resilience research that describes the theoretical framework for resilience, researchers still experienced difficulties in continuing to exhibit findings from real-world situations.

Resilience research is also characterized by defining the process (Masten, 2011). Researchers have struggled to develop and implement proper research designs that utilize

experimental groups and accurately test hypotheses (Shean, 2015). Similarly, investigators have failed to address and implement findings from intervention research to help support children regarding resilience. These difficulties could be explained by the challenges in developing experimental designs in resilience research, in which one group of participants would receive a resilience intervention and the control group would not (Shean, 2015). However, researchers have provided limited suggestions and psychoeducation to practitioners and administrators that have reflected the number of findings published on resilience (Shean, 2015; Van Der Kolk, 2014). Though there are some resilience interventions that have been developed from the available research, these interventions have been tested in narrow circumstances (Shean, 2015). For resilience to translate to effective interventions, researchers need to better define the current gaps in resilience in relation to both specific contexts and presence or lack of protective factors (Ungar, 2019). Nonetheless, researchers have provided the field with models that help define and describe the process of resilience pertaining to specific threats, such as the pathway from child maltreatment to child welfare and school counseling (Akos & Galassi, 2008; Bell et al., 2015; DiLillo et al., 2006). Future research should focus on developing more effective interventions to further stimulate resilience or reduce the prevalence of ACEs.

Neuroscience of Resilience

Resilience has implications on daily social and psychological functioning, and there is physiological evidence of its effects on the nervous system. It is plausible that the presence of protective factors could be due to neurological differences that vary across individuals (McEwen & Morrison, 2013). Researchers have considered genetic contributions to resilient responses following trauma and stress. Research conducted using animal models can support genetic contributions to resilience. For example, there have been links between histone acetylation and

the hippocampus in mice and rats following exposure to mild stressors, such as during a forced swim test (G. Wu et al., 2013). More specifically, increases in histone acetylation in the hippocampal subregions suggested adaptive changes to memory formation and the rats' stress response. These epigenetic changes in animal models demonstrate cognitive and behavioral responses similar to resilient responses in humans. Additional animal models have found support such that mice who underwent a physically threatening event (i.e., injection of lipopolysaccharide) quickly exhibited depressive behaviors and inflammation in the hippocampus (Z. Wu et al., 2020). Impacts on the hippocampus in these animal models resulted in inhibited HPA axis activity (Grimm et al., 2014). However, some of the mice also displayed resilient behaviors compared to other mice in the same condition group, indicating individual differences led to this result.

While there is no clear, single model that accounts for the differences in resilient responses across individuals, multiple genetic contributions among humans may impact resilience. There is no single, isolated gene that allows individuals to engage in resilient responses following adversity. Yet, there is evidence that resilience can be better explained from a combination of genetic alterations. Genetic variations to neuropeptides can lead to changes in anxiety-related responses following stress (G. Wu et al., 2013). While consistent levels of neuropeptides, such as Neuropeptide Y (NPY), can result in salient responses to stress, variations to NPY combined with other variations, called polymorphisms, have similarly been found to have connections to pathological anxiety following adversity.

Catechol-O-Methyltransferase (COMT) is an enzyme that metabolizes catecholamines such as norepinephrine and dopamine (G. Wu et al., 2013). Changes in this gene within the noradrenergic and dopaminergic systems have been associated with deficits in the stress response

and emotional resilience. Additional changes to dopamine receptor genes have been connected to exacerbated stress responsivity, emotion processing, and susceptibility to psychopathological disorders that are brought on by the onset of stress, including PTSD and depression (McLaughlin et al., 2012). Neuroscientists continue to find that genetic alterations contribute to the role of neuropeptides, enzymes, and neurotransmitters. Polymorphous considerations would support the numerous unique, individual protective factors that children may display when displaying resilience; however, the heritability remains unclear. This relationship can be further explained by the epigenetics of resilience, as the genes continue to change without altering the DNA sequence (G. Wu et al., 2013).

Researchers have supported genetic contributions and foundations to resilience; however, the behavioral phenotype may not be observed until an environmental condition triggers the response. Environmental impacts on children's psychological well-being should be considered in the context of experiencing an adverse event. For example, individuals experience biological resilience through reduced limbic deactivation and HPA-axis responsivity during psychosocial stress (Grimm et al., 2014). From the HPA-axis remaining disinhibited, the stress hormone release process continues without the required feedback from the brain structures. For people who have experienced early life stress and demonstrate the genetic foundations that support a resilient response, the continued release of cortisol without any feedback that characterizes the HPA-axis response will result in a similarly continued behavioral stress response (Grimm et al., 2014). However, for those who have experienced early life stress but do not have the social support and genetic foundations that support resilient responses, the HPA-axis may remain inhibited.

Neurotransmitters also impact the likelihood of resilient responses. In supporting resilient responses, GABA and glutamate have been implicated in the stress response (G. Wu et al., 2013). GABAergic neurons are vulnerable to chronic stress and may lead to depression when negatively impacted. As the GABRA1 gene is impacted, a reduction of GABA is associated with individuals with severe depression and deficits in adaptation to acute and chronic stress (G. Wu et al., 2013). However, not all people experience these detrimental effects as some display invulnerability in GABAergic neurons within the limbic system, resulting in resilience (Zhu et al., 2017). Additionally, animal models continue to support the impact of neurotransmitters on resilience through glutamate transportation and synthesis. Rats with learned helplessness, a model for depression, experienced an increase in the release of glutamate and a decrease in glutamate synthesis (Yoshino et al., 2020). However, compared to rats without learned helplessness, a model for resilience, properly regulated levels of glutamate within astrocytes through the limbic system supported invulnerability to prolonged stress (Yoshino et al., 2020).

In addition to the variations in GABA and glutamate that lead to resilient or non-resilient responses to stress, the various brain structures in which these neurotransmitters are produced and released have been linked to resilience. The neural circuitry of the prefrontal cortex (PFC) has been linked to executive functioning as the release and binding of numerous neurotransmitters occur here (Yoshino et al., 2020). However, stress-related experiences can change the neurochemistry interaction within the PFC, which consequently alter neuroendocrine functioning and behaviors. When functioning properly at a young age, a child can experience the effects of plasticity, ensuing experiences of high stress, and adversity, which may assist in their development of resilient responses (McEwen & Morrison, 2013). More specifically, the medial prefrontal cortex allows for improved reactivity to threatening stimuli and supports quick,

resilient responses when supported by additional related neural structures (G. Wu et al., 2013).

Moreover, neural structures, such as the nucleus accumbens, are other areas in which the release and utilization of glutamate and GABA occurs (Yoshino et al., 2020; Zhu et al., 2017). In the nucleus accumbens, GABA supports inhibition on behavior that is activated by dopamine, while glutamate can be utilized in learning. In conjunction, GABA can address dysfunction in the nucleus accumbens related to depression, anhedonia, and anxiety, while glutamate can support learning despite being in aversive environments (G. Wu et al., 2013). Improvements in these areas addresses the characteristic symptoms of depression and explains the difference when comparing individuals with depressive symptoms to those with resilient characteristics. As various neural structures influence the potential for resilient responses among individuals, along with the dynamic functions of neurotransmitters and genetic influences, these interactions should continue to be considered in individuals' ability to engage in resilience immediately following an adverse event.

Interactions

Trauma and Parenting Styles

Trauma continues to be complex in its occurrence and identification. Specifically, the context and who is involved in an adverse experience significantly impacts the immediate and long-term effects. Moreover, considering that an entire theme of ACEs is related to household dysfunctions, the presence of a caregiver in a traumatic event and parenting styles used afterwards are important to consider (Felitti et al., 1998). There are multiple aspects to consider between the occurrence of trauma and parenting styles, including the perpetration of a traumatic event by a parent and the response to an ACE by a parent. An authoritative parenting style suggests that a parent would provide a warm, supportive response to a child's needs (Lavrič &

Naterer, 2020). However, an authoritarian or neglectful parenting style has been characterized by a poor response to children's emotional and physical needs, centered around control over others (Pinquart & Gerke, 2019).

Moreover, caregivers' behaviors associated with a neglectful parenting style have been found to be predictive of children's sustained trauma-related symptoms across races and ethnicities (Costello & Klein, 2019). Therefore, it is important to consider both the immediate and long-term effects of ACEs throughout the lifespan in association with parenting styles. As trauma-related symptoms persist throughout childhood and adolescence following an ACE or emerge into early adulthood, parents may respond differently according to parenting behaviors. For example, Pinquart and Gerke (2019) found authoritarian and neglectful parenting styles to be negatively associated with a child's self-esteem, whereas authoritative parenting style was positively correlated with children's self-esteem.

Trauma and ER

Responding to trauma and utilizing ER skills involves many of the same neuropsychological structures and processes. During a trauma response, how a person perceives and attends to the stimuli contributes to researchers' understanding of ACEs and ER (Huntsinger, 2013), such as top-down processing or bottom-up processing. Deficits in ER can also impact memory functioning, particularly among long-term storage and retrieval (Schacter & Madore, 2016). Similarly how the hippocampus reduces in size during a trauma response, ER functioning may be further impacted as a result (Feifer, 2019). Conversely, successful ER strategies may help mitigate the physical and psychological effects of trauma (Cloitre et al., 2019). ACEs have been associated with physical and psychological impacts in functioning throughout the lifespan, and poor ER may strengthen the relationship between ACEs and physical and mental health

(Cloitre et al., 2019). However, interventions on improving ER have illustrated improved physical and mental health despite the occurrence of ACEs (Cloitre et al., 2019). Trauma and ER have been found to be correlated with one another, as well as ER mediating the effects of trauma.

Researchers have also posited neurocircuitry models in which the risks and consequences of ACEs are mitigated by heightened emotional processing, or ER strategies through a salience network (Cisler et al., 2019). A salience network is a collection of brain regions that work together to select which stimuli should be focused on, along with other executive functions (Seeley, 2019). The efficacy of this network is dependent on the emotional processing system and other ER skills (Cisler et al., 2019). However, the processes involved in learning are included in the salience network but further inhibited by the trauma response in early childhood experiences (Cisler et al., 2019). Knowing that attention, learning, and ER may all be impacted by ACEs, it is important to understand the extent to or variability in which different people can engage in emotional processing in response to trauma or stimuli triggering a trauma response. In other words, the extent to which a person either over-reacts or under-reacts to a stimulus is dependent on previous abilities within the cognitive-affective domain, such as ER strategies (Cisler et al., 2019).

Trauma and Resilience

Researchers have indicated that the lasting effects of ACEs can vary in severity throughout the lifespan (Felitti et al., 1998). However, a person's ability to recover and overcome the consequential effects associated with trauma is defined as resilience (Feifer, 2019). In other words, resilience is observed in response to the occurrence of trauma or other sources of stress. It is important for researchers to identify the antecedents and responses to a trauma response, such

as resilience. Though not everyone exhibits resilience the same way, the variables and contexts in which resilience occurs.

The ability to cope with stress has been observed within the first few months after birth (Feder et al., 2019). Engaging in resilience in infancy has been shown to be a predictor of future emotional, cognitive, and social adjustment (Provenzi et al., 2017). Research assessing the occurrence of resilience throughout the lifespan in response to stress further suggests that it is more likely a by-product of genetic make-up, temperament, and environmental circumstances (Feder et al., 2019). However, resilience can also be learned through experiences. For example, studies have illustrated that children can learn to self-regulate based on how their parents engaged in self-regulation skills in regards to their emotional lability within the first 5 years of life (Davis et al., 2017). Though this does not mean that all children will learn the same skills when placed in the same situations, it is also plausible that certain neurobiological mechanisms related to trauma and other adverse events can also predispose children to better adjust to stressful surroundings (Feifer, 2019).

Parenting Styles and ER

Of the previously identified parenting styles, researchers have suggested that the authoritative parenting style is supportive of characteristics and abilities such as adaptive patterns of coping, relating to both subsequent developments of ER and resilience (Power, 2013). For example, when parents enact the authoritative parenting style, they are more accepting and responsive to their children's reports of emotions. By engaging in this method of socialization, parents influence children's awareness of appropriate responses to typical negative emotions and build knowledge of adaptive ER strategies (Caiozzo et al., 2018). Additionally, ER is a construct that continues to form with overall cognitive development (Schweizer et al., 2020). Parents

continue to support and encourage continued cognitive development, along with other developmental areas, depending on the parenting style utilized (Schweizer et al., 2020). Particularly for the development of ER skills, parents both model and encourage the use of adaptive ER strategies to help their children thrive (Schweizer et al., 2020).

Regulating emotions continues to be critical for future prosocial behavior and mental health among children and adolescents (Morris et al., 2017). Parents continue to influence their children's emotional, social, and behavioral development in multiple ways such as through parenting styles and their own emotion regulation (Morelen et al., 2016). Researchers identified that observed maternal ER was negatively correlated with unsupportive emotion parenting styles (Morelen et al., 2016). Morelen and colleagues (2016) similarly observed that maternal emotion dysregulation was positively associated with parenting styles characterized as unsupportive. Unsupportive parenting styles have been found to be related to poor mental health in children including poor ER skills (Williams et al., 2009). Maternal emotion dysregulation was also found to be negatively related to children's adaptive ER strategies (Morelen et al., 2016). These patterns suggest that parenting styles which involve more frequent responses to children's emotional needs and warmth have a mediating effect between maternal and child ER.

Parenting Styles and Resilience

Parenting behaviors including responsiveness and control, as well as the four parenting styles, and the variation in engagement of these behaviors, may inform the development of resilience. The authoritative parenting style described by high levels of both warmth and demandingness have been suggested to result in positive mental health, including low levels of depression (Ebrahimi et al., 2017). Additionally, parents who provide support and are responsive to negative behaviors to their children serve as models for use of adaptive ER skills and response

to unexpected negative behaviors (Caiozzo et al., 2018). Parents who utilize an authoritative parenting style similarly support the development of proactive behaviors later in adulthood (Nie et al., 2022). Nie and colleagues (2022) defined proactive behaviors as a set of behaviors in which an individual actively engages in to change themselves and their surrounding environment with a positive outlook on the future. Similarly, children with parents who are characterized by low responsiveness and understanding of their children, but still consistent use in rule-setting, were found to engage in proactive behaviors as adults (Nie et al., 2022).

Identifying differences in parenting styles cross-culturally may assist research in identifying individual factors related to resilience. Researchers have identified parenting styles in association with characteristics including warmth and control, as well as parenting styles that may be used more frequently across different cultures (Baumrind, 1971; Maccoby and Martin, 1983). However, the associations between parenting styles and defining characteristics and identified consequences are not consistent across cultures. For example, researchers found that Black children raised with an authoritarian parenting style experienced lower suicidal behavior compared to White children (Greening et al., 2010). This finding differs from research that has identified the authoritarian parenting style leading to negative developmental and mental health outcomes (Hoeve et al., 2011). By understanding the potential factors in parenting styles that can support children's mental health, the occurrence of resiliency can be better facilitated for individuals.

ER and Resilience

Individuals who exhibit difficulty with ER may struggle to display resiliency. Though there are many ER strategies that can be applied to various situations, difficulties in being aware of the need for these strategies and implementing them can lead to future difficulties in mental

health such as resilience (Roemer et al., 2015). During childhood, perceived stress can sometimes reduce the effects of ER strategies (Hong et al., 2018). Similarly, perceived stress from childhood can be exacerbated later in adulthood (Hong et al., 2018). In response to adversity in either childhood or adulthood, ER strategies such as cognitive reappraisal or suppression have been found to mediate the relationship between parental neglect and perceived stress (Hong et al., 2018). From reducing the severity and impacts of perceived stress, the implementation of ER strategies are reported to be more effective. Furthermore, the duration in which stress can be tolerated in adulthood is impacted depending on the use of ER strategies to achieve resilience (Arici-Ozcan et al., 2019). Researchers found that the higher the amount of stress tolerance that an individual possesses the more cognitive flexibility they exhibit (Arici-Ozcan et al., 2019). Moreover, people who are more cognitively flexible were found to have less difficulties with ER (Arici-Ozcan et al., 2019). Subsequently, lower difficulties with ER is positively associated with increased levels of resilience (Arici-Ozcan et al., 2019). By better understanding the relationship between ER and resilience, and the mediating role of ER, strategies in response to perceived stress among children and adults can be better identified and targeted to support resilience.

CHAPTER III

METHODOLOGY

Research Questions and Rationale

This study aimed to analyze the relationships among parenting styles, ER, and resilience among individuals who have experienced adversity in childhood or adolescence. Given the gap in research regarding these relations, an investigation that would illuminate them was justified to better understand the contexts in which resilience occurs. The different ACEs that occur in childhood and adolescence were considered, in addition to the total number of ACEs experienced, as trauma and resilience can happen simultaneously. Although parenting styles and ER have been studied separately with resilience characteristics among children, previous literature suggests that these variables are correlated and may be related through indirect effects. Furthermore, the variations in parenting styles and ER skills utilized across demographics ultimately impact resilience, such as those between such as those across race, ethnicity, and gender. Therefore, a study focusing on the mediation of parenting styles and resilience through ER among individuals across race, ethnicity, and gender exposed to trauma would help minimize the gap in empirical evidence and provide a better understanding of the dynamics of resilience in this additional context.

Specifically, the present study aimed to examine the following research questions: (a) the relationships among demographics and resilience; (b) the relationship between trauma and resilience; (c) the relationships between parenting behaviors (demand and responsiveness) and resilience; (d) the relationships among parenting behaviors (demand and responsiveness), resilience, and emotion regulation.

Hypotheses

Based on the theorized relationships among trauma exposure, parenting behaviors and styles, ER, and resilience, the following hypotheses were developed:

1. There will be a positive relation between age and resilience, such that older participants will have higher resilience scores on the Connor-Davidson Resilience Scale (CD-RISC).
2. Women, compared to men, will have higher levels of resilience as measured by the CD-RISC.
3. Participants with more ACEs will report higher levels of resilience than participants with fewer ACEs.
4. People of color will report higher levels of resilience, as measured by the CD-RISC, than White people.
5. Higher levels of parental responsiveness, as measured by the PBI, will predict higher levels of resilience on the CD-RISC.
6. Lower levels of parental demand, as measured by the PBI, will predict higher levels of resilience on the CD-RISC.
7. High responsiveness scores and low demand scores will predict ER, as measured by the DERS.
8. ER will mediate the relationship between parenting behaviors (demand and responsiveness) and resilience.

Participants

There were a total of 210 responses. However, 32 participant responses were removed because survey duration (e.g., the amount of time taken to complete the study) was judged to be

too low to have produced authentic responses. Three participant responses were removed because of zero variance in their responses (e.g., ratings of 5 across all items). Based on these preliminary analyses, the final data set included 175 participants.

Tables 1, 2, and 3 present participants' age, gender identity, race, and ethnicity, respectively. Participants were asked about race and ethnicity separately. In terms of race, 61.7% of participants identified as White, 18.9% as Black or African-American, 5.7% as Asian, 1.1% as American Indian or Alaska Native, and 0.6% as Native Hawaiian or Pacific Islander. In terms of ethnicity, 39.4% identified as Hispanic or Latino, 4% reported identifying as two or more different ethnicities, and 8% preferred not to say. Other descriptive statistics, including household income, education level, and parental education level, are presented in Appendix B.

Table 1

Age of Participants

Age	Full sample	
	N	%
18-25 years	124	70.9
26-30 years	15	8.6
31-40 years	9	5.1
41-50 years	9	5.1
50+ years	18	10.3

Table 2

Gender Identity of Participants

Gender	Full sample	
	N	%
Female	158	90.3
Male	14	8
Non-binary	3	1.7

Table 3

Race and Ethnicity of Participants

Race	Full sample	
	N	%
White	108	61.7
Black or African American	33	18.9
Asian	10	5.7
American Indian or Native American	2	1.1
Native Hawaiian or Pacific Islander	1	0.6
Two or more	7	4
Prefer not to say	14	8
Ethnicity		
Hispanic or Latino	69	39.4

Measures

Demographics

Participants were administered a demographic questionnaire that included age, gender, race, ethnicity, income, level of education, and parental education level.

Trauma Measure

The ACEs Study Questionnaire (Felitti et al., 1998) is a measure that assesses non-combat related traumatic experiences. The ACEs Study Questionnaire was further studied by Cronholm and colleagues (2015), known as the Expanded ACE Study. From the study, the Expanded ACE Questionnaire was developed to better include community-based adversity that can impact children and adolescents. The scale is completed by adults as they recall experiences in their childhood and adolescence. The scale consists of 15 items to be completed by raters who are aged 18 years or older. Each question is answered on a dichotomous *yes* or *no* scale. Each question answered *yes* equals to 1 point on a 15-point scale. The items reflect the 15 total categories of ACEs researchers have previously identified (Wycoff & Franzese, 2019).

The original ACEs Study Questionnaire has adequate reliability across multiple analyses. Bruskas and Tessin (2013) identified that the original measure had good reliability (α = .81) whereas Murphy and colleagues (2014) determined the original scale to have a strong reliability (α = .88). The internal consistency was found to be adequate as well (α = .78; Grady et al., 2018). Though research has shown that there are other types of trauma that individuals can experience, the 10 original categories in the ACEs Study Questionnaire remain valid and well-organized. This suggests that the categorization of the original ACEs Study Questionnaire is psychometrically sound (Afifi et al., 2020). Despite the psychometric qualities of the original ACEs Study Questionnaire, there may be concerns regarding the reliability of participants' responses due to potential effects on memory functioning following an adverse event. However, considering the psychometric properties of this measure, it appears to be an appropriate measure to assess the occurrence of ACEs during childhood and adolescence. Additionally, the Expanded ACEs Questionnaire have been found to be necessary in obtaining an accurate conceptualization

of individual trauma history, illustrating that racial and ethnic minorities are more likely to experience different adversities compared to their White peers (Cronholm et al., 2015). Though limited psychometric research is available on the Expanded ACE Questionnaire, including questions reviewing the original and expanded ACEs in the study will ultimately help to thoroughly address the research questions.

Parenting Behaviors Measure

The Parental Bonding Instrument (PBI; Parker et al., 1979) is a measure that assesses two parenting behaviors and attitudes towards their children: care (warmth) and overprotection (control). The scale is completed by offspring as they recall experiences and understanding of their parents' behaviors towards them. The PBI includes 25 items to be completed by the offspring aged 16 or older and is presented on a 4-point Likert scale in which the respondent identifies the extent to which they agree with the statement, (1 - *Very like*, 4 - *Very unlike*; Parker et al., 1979). Furthermore, the PBI is given twice in total to ask respondents separately about parenting behaviors in mothers and fathers (Parker et al., 1979). In total, the PBI has four subscales: maternal care, paternal care, maternal overprotection, and paternal overprotection (Parker et al., 1979). The items address the spectrum in which parents can either display care or indifference, and overprotection or allowance of autonomy towards children, as supported in previous literature (Gamsa, 1987).

The PBI illustrates adequate internal consistency across the subscales (α = .69 - .88; Parker et al., 1979). Additionally, the care and overprotection dimensions showed moderate convergent validity, indicating that these two subscales should reflect similar, related characteristics of parenting (Parker et al., 1979). The PBI further showed good concurrent validity for both the care and overprotection subscales (r = .77, p < .001; r = .50, p < .001; Parker

et al., 1979). The intercorrelation between the care and overprotection constructs also suggested good discriminant validity (r = -0.23, p < .001), suggesting that the two dimensions are not independent from one another (Parker et al., 1979). However, researchers identified that the language in five items of the original scale were found to have overtly negative language and double negatives, leading to confusion among respondents' answers (Gamsa, 1987). Gamsa (1987) reworded these five items to represent a clearer representation of the care and overprotection constructs. Following the language update to those particular items, the PBI maintained its reliability and validity (Gamsa, 1987).

ER Measure

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a measure developed to assess difficulties in ER. The DERS is intended to be completed by adults aged 18 years or older who are asked to rate the degree to which each statement is true about them or the frequency in which they engage in behaviors associated with ER (Gratz & Roemer, 2004). The scale includes 36 items on a 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*; Gratz & Roemer, 2004). The DERS total score is composed of six subscales: nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity (Gratz & Roemer, 2004). Lower scores are more indicative of adaptive ER abilities, whereas higher scores are representative of difficulties with ER.

The DERS has good internal consistency and test-retest reliability (Gratz & Roemer, 2004). In a study of over 400 adults with at least one *Diagnostic and Statistical Manual of Mental Disorder (DSM-5)* diagnosis, the DERS continued to show high internal consistency among a clinical sample (Hallion et al., 2018). However, when excluding the subscale for lack of

emotional awareness, the internal consistently was higher than when including all six subscales (Hallion et al., 2018). This finding suggests that awareness of emotions, or lack of it, is its own construct separate from ER but still contributes to the theoretical understanding of ER.

Protective Factors Measure

The Scale of Protective Factors (SPF; Ponce-Garcia et al., 2015) is a measure that asks participants to identify present factors that contribute to resilience. The SPF identifies four protective factors that are determinants of resilience (Reich et al., 2010), including social support, social skills, planning behavior, and goal efficacy. The social support and social skills subscales make the social-interpersonal scale, whereas the planning behavior and goal efficacy subscales comprise the cognitive-individual scale. The SPF has most often been used among adult populations (Ponce-Garcia et al., 2015). The scale includes 24 items on a 7-point Likert scale ranging from 1 (*disagree completely*) to 7 (*completely agree*). Higher scores indicate a more substantial presence of protective factors (Ponce-Garcia et al., 2015). The SPF has good psychometric properties, including good internal consistency. The internal reliability for the SPF was determined to be strong (α = .91). Similarly, the internal consistency was good across all four subscales: social support (α = .93), social skills (α = .86), planning behavior (α = .85), and goal efficacy (α = .78).

Resilience Measure

The CD-RISC (Connor & Davidson, 2003) is a measure that asks participants to identify behaviors that they engage in that comprehensively describe resilience. Within the scope of this scale, resilience is viewed as an assessment of a person's ability to respond to stressful events. The measure has also been considered to be multidimensional in its assessment of resilience, such as targeting factors including tenacity and competence, trust, tolerance of negative moods,

acceptance of change, control, and spirituality (Scali et al., 2012). The CD-RISC has been most often studied among an adult population, though it has also been researched and analyzed among participants' as young as 10 years old (Vetter et al., 2010). The scale includes 25 items on a 5-point Likert scale ranging from 0 (*not at all true*) to 4 (*true nearly all the time*). The total score ranges from 0-100, where higher scores reflect higher levels of resilience (Connor & Davidson, 2003).

The CD-RISC has good psychometric properties, including good internal consistency and test-retest reliability. Connor and Davidson (2003) identified that the measure had good internal consistency (α = .89) for all 25 items. Inter-item correlation was also found to vary between moderate and high strength (r = .30 - .70). Among clinical populations, including those diagnosed with generalized anxiety disorder (GAD) and PTSD, the test-retest reliability of the CD-RISC was determined to show high agreeability between pre- and post-test scores, with a correlation coefficient of .89 (Connor & Davidson, 2003). This suggests that the measure is consistent in assessing characteristics related to resilience among the same participants across time. CD-RISC scores have also been positively correlated with other measures of resilience, and negatively correlated with measures of stress. This indicates that low levels of perceived stress are related to high scores on the CD-RISC. Items and scores on the CD-RISC had no significant relationship with other measures unrelated to resilience, suggesting that the CD-RISC is able to accurately assess with resilience without potentially assessing for other factors or constructs. A factor analysis confirmed that the items on the CD-RISC can be conceptualized in five different factors that are associated with resilience: personal competence, high standards, and tenacity; trust in instincts, tolerance of negative affect, and strengthening effects of stress; acceptance of change and secure relationships; control; and spiritual influences.

Procedures

Participants were recruited online through convenience and snowball sampling via social media (i.e., Facebook, Instagram, LinkedIn), and Sona Systems, a platform where studies are posted for undergraduate students who are required to participate in research for course credit. Informed consent was obtained online through Qualtrics. After informed consent was obtained, participants completed the study on Qualtrics. Participants had an unlimited amount of time to complete the study; however, the study was estimated to be completed in less than 30 minutes. Each name of the measures was listed at the top of the computer screen while participants were completing them. Participants first completed the Expanded ACEs Questionnaire, then the PBI. When participants were presented with the PBI, they were shown the name of the measure, as well as a prompt to think of one parent or caregiver. After completing the PBI regarding one parent or caregiver, participants were asked if there was another caregiver in their household during either their childhood or adolescence. If participants answered *yes* to this question, they were asked to complete the PBI a second time to gather participants' assessment of another caregiver. This was done to address households described as either single-parent or two-parent. Participants also completed the DERS, SPF, and CD-RISC. Demographic information was also collected. All forms remained de-identified to preserve confidentiality, and the forms were only marked by a participant's ID number. Data was stored in Qualtrics. Participants completed the forms independently, without influence from the researcher.

CHAPTER IV

RESULTS

Preliminary Analyses

Reliability

Reliability analyses to measure internal consistency were run prior to conducting additional statistical analyses. The items on the Expanded ACEs Questionnaire produced a good internal consistency ($\alpha = 0.785$). Similarly, the items on the PBI produced good reliability ($\alpha = 0.669$). The items on the DERS ($\alpha = 0.962$), SPF ($\alpha = 0.945$), and CD-RISC ($\alpha = 0.929$) produced strong reliability. Consistent with previous research, these results suggest that the items for all scales, individually, have consistent responses across participants.

Frequencies

On the PBI, 124 participants provided responses for two caregivers in their household. However, 51 participants completed the PBI once for one caregiver in their household.

Correlation Analysis

As shown in the intercorrelation matrix in Appendix C, significant correlations were identified between total traumatic experiences and parental responsiveness ($r = -0.525$; $p < .001$); total traumatic experiences and parental demand ($r = .403$; $p < .001$); total traumatic experiences and emotion regulation ($r = .281$; $p < .001$); total traumatic experiences and protective factors ($r = -.314$; $p < .001$); total traumatic experiences and resilience ($r = -.238$; $p = .002$); parental responsiveness and parental demand ($r = -.465$; $p < .001$); parental responsiveness and emotion regulation ($r = -.349$; $p < .001$); parental responsiveness and protective factors ($r = .547$; $p < .001$); parental responsiveness and resilience ($r = .410$; $p < .001$); parental demand and emotion regulation ($r = .342$; $p < .001$); parental demand and protective factors ($r = -.289$; $p < .001$);

parental demand and resilience (r = -.243; p = .001); emotion regulation and protective factors (r = -.496; p < .001); emotion regulation and resilience (r = -.482; p < .001); and protective factors and resilience (r = .734; p < .001).

Hypothesis Testing

Hypothesis 1: Participant Scores on the CD-RISC Will Be Higher for Older Participants Than for Younger Participants

I proposed that there would be a positive relation between age and resilience, such that older participants would have higher resilience scores on the CD-RISC than younger participants. An independent samples *t*-test was run to assess the relationship between age and resilience as measured by the CD-RISC. The paired groups were participants who were between ages 18-25 years and 26-50+ years. The group of participants aged 26-50+ years were grouped as the number of participants for the small groups were limited. Combining these groups provided more power in comparing younger and older adults; however, this has implications for the generalization of results. Overall, the results support this hypothesis: resilience scores among older adults (M = 72.18; SD = 14.40) were significantly higher than those among traditional college-aged adults (M = 65.51; SD = 16.06), $t(173) = -2.57$, p = .006. However, caution should be used when interpreting the results due to the unequal cell sizes that were compared. In addition, it is important to consider the wide age range in the group of older adults. Given the smaller cell size and wide age range in this comparison group, the findings, albeit statistically significant, are tentative at best.

Hypothesis 2: Participant Scores on the CD-RISC Will Be Higher for Women Than for Men

I predicted that women, compared to men, would have higher levels of resilience, as measured by the CD-RISC. An independent samples *t*-test with paired groups being participants who identified as male and female was conducted. There was no evidence to support this hypothesis: resilience scores among women ($M = 67.49$; $SD = 15.91$) were statistically similar to those among men ($M = 69.14$; $SD = 12.82$), $t(170) = .377$, $p = .353$.

Hypothesis 3: Participant Scores on the CD-RISC Will Be Higher for Participants With More ACEs Than for Participants With Fewer ACEs

I predicted that participants with more ACEs would report higher levels of resilience than participants with fewer ACEs. A one-way between-subjects analysis of variance (ANOVA) was conducted to analyze this hypothesis. The dependent variable was participant ratings on the CD-RISC. The independent variable was reported trauma exposure on the Expanded ACEs Questionnaire. There was a significant effect of total reported trauma exposure on resilience scores, $F(17, 157) = 1.76$, $p = .037$. These results do not support the hypothesis, but suggest a significant difference in the opposite direction. The finding indicates that participants with fewer ACEs reported significantly higher resilience compared to those with more ACEs.

Hypothesis 4: Participant Scores on the CD-RISC Will Be Higher for Participants of Racial and Ethnic Minorities Compared to White Participants

I predicted that people of color would report higher levels of resilience, as measured by the CD-RISC, than White people. This hypothesis was tested using a one-way between-subjects ANOVA. The dependent variable was participant ratings on the CD-RISC. The independent variable was racial and ethnic identity. Because there was a limited number of participants who

identified as a racial or ethnic minority, only participants who identified as White non-Hispanic, White Hispanic, Black non-Hispanic, and Black Hispanic were included in this analysis. Though this provided insight into the relationship between race, ethnicity, and resilience, this possibly has limitations in the generalizability of the finding. There was no evidence of a significant effect of racial and ethnic identity on resilience scores, $F(3, 137) = .623$, $p = .601$.

Hypothesis 5: Higher Scores of Parental Responsiveness on the PBI Will Predict Higher Scores on the CD-RISC

I predicted that higher levels of parental responsiveness, as measured by the PBI, would predict higher levels of resilience on the CD-RISC. In this analysis, participants who completed the PBI twice only had one parental responsiveness subscale for one caregiver included. A simple linear regression analysis was used to determine if parental responsiveness predicted resilience. The presence of high parental responsiveness significantly predicted a resilient response, $\beta = .410$, $p < .001$, and explained 16.8% of the variation in resilience.

Hypothesis 6: Lower Scores of Parental Demand on the PBI Will Predict Higher Scores on the CD-RISC

I predicted that low scores on parental demand, as measured by the PBI, would result in high scores of resilience on the CD-RISC. In this analysis, participants who completed the PBI twice only had one parental demand subscale for one caregiver included. A simple linear regression analysis indicated that parental demand explained about 5.9% of the variation in resilience, $F(1, 173) = 10.81$, $p = .001$. The results also support the hypothesis, indicating that the presence of low parental demand significantly predicted a resilient response, $\beta = -.243$, $p = .001$.

Hypothesis 7: Higher Scores of Parental Responsiveness and Lower Scores of Parental Demand Will Predict Lower Scores on the DERS

I proposed that high parental responsiveness scores and low parental demand scores would predict ER, or low scores as measured by the DERS. One set of parental responsiveness and parental demand scores were used among participants who completed the PBI twice. To test this hypothesis, a multiple linear regression model was conducted. The predictor variables were parental responsiveness and parental demand. The dependent variable was emotion regulation. The overall regression model was statistically significant, explaining about 16.7% of the variance in emotion regulation, $F(3, 171) = 11.39$, $p < .001$. The variables were entered into a stepwise multiple linear regression model. In Step 1, parental responsiveness was entered and explained 14.1% of the variance in emotion regulation, $F(1, 122) = 20.10$, $p < .001$. In Step 2, parental demand was added to the model, which explained a total of 20.3% of the variance in emotion regulation, with about a 6.1% increase in the variance explained, $F(2, 121) = 15.37$, $p < .001$. However, when the cross product of parental responsiveness and parental demand were included in the regression, there was no evidence that the interaction was significant, $\beta = .062$, $p = .385$. Results from these regression analyses are presented in Tables 4 and 5.

Table 4

Multiple Regression Analysis of Parental Responsiveness and Parental Demand Predicting ER (N = 175)

Variable	*B*	*SE B*	*β*
Parental Responsiveness	-.966	.308	-.248*
Parental Demand	.862	.289	.237*
Interaction Model (Parental Responsiveness x Parental Demand)	.028	.033	.062

*Statistically significant at the $p < .01$ level

Table 5

Stepwise Multiple Regression Analysis of Parental Responsiveness and Parental Demand Predicting ER (N = 175)

Variable	*B*	*SE B*	*β*
Step 1			
Parental Responsiveness	-1.41	.313	-.376*
Step 2			
Parental Responsiveness	-1.01	.330	-.296*
Parental Demand	1.07	.353	.269*

Note. R^2 = .141 for Step 1; ΔR^2 = .061 for Step 2.

*Statistically significant at the $p < .01$ level

Hypothesis 8: Participant Scores on the DERS Will Mediate Scores on the PBI and CD-RISC

I predicted that ER would mediate the relationship between parenting behaviors (demand and responsiveness) and resilience. One score for parental responsiveness and parental demand, separately, was used from participants who completed the PBI twice. To test this hypothesis, a mediation analysis was run using the PROCESS macro (Hayes, 2013). This process uses bootstrap sampling procedures that yield confidence intervals (CI; Preacher & Hayes, 2004). CIs

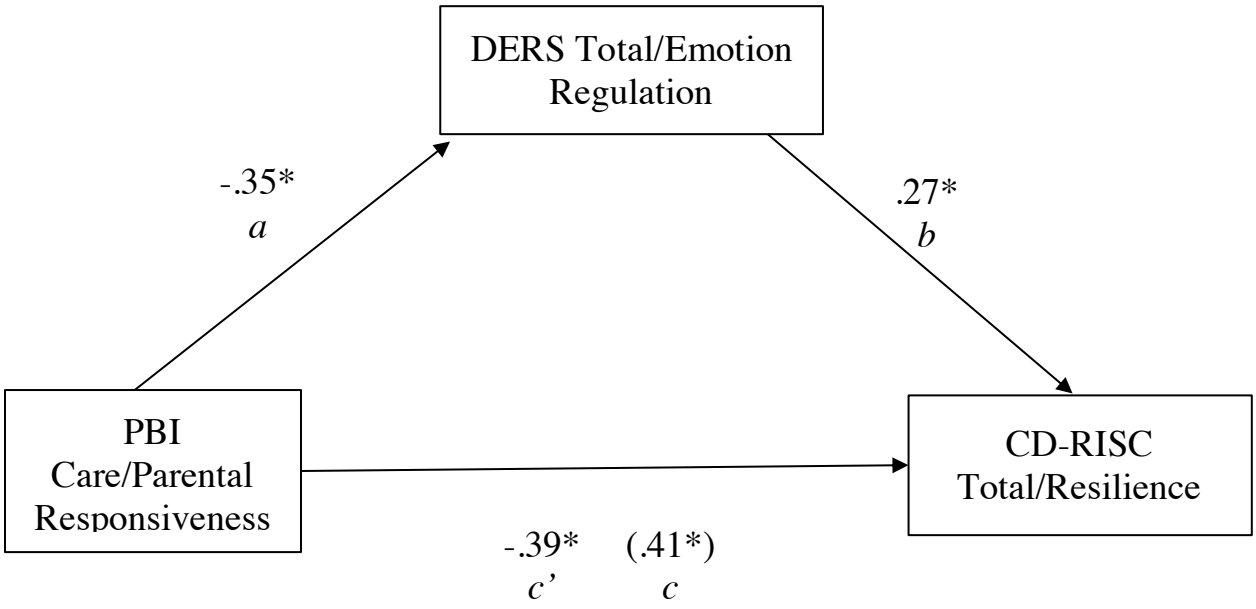
are used to evaluate the indirect pathways between independent, or predictor, and dependent, or criterion, variables. This procedure reduces limitations of traditional mediation analyses (e.g., Baron & Kenny, 1986), including Type I errors and quantifying effect sizes of any identified mediations (Hayes & Rockwood, 2017; Preacher & Kelley, 2011).

In this method, the following paths were assessed: *a* (predictor variable to mediator variable), *b* (mediator variable to criterion variable), *c* (direct path from predictor variable to criterion variable), and *c'* (indirect path from predictor variable to criterion variable). The direct and indirect effects of ER were estimated for parenting behaviors and resilience. Bootstrapping (5,000 samples) was used to generate CIs for the indirect effect.

A mediation analysis was first conducted with parental responsiveness as the predictor variable, resilience as the criterion variable, and ER as the mediator variable. Figure 1 shows standardized path coefficients. The indirect effect of parental responsiveness from the PBI on resilience from the CD-RISC (*ab* = .13) was statistically significant as CIs (.07, .21) at the 95% confidence level did not include zero; this is one of the conditions of the analysis (Preacher & Hayes, 2004). Additionally, the direct effect of parental responsiveness scores from the PBI on resilience scores from the CD-RISC remained significant (*c'* = -.39, $t = -5.67$, $p < .001$) after accounting for the mediator. This suggests that there is partial mediation. Table 6 contains a summary for this mediation model.

Figure 1

Mediation Model of Parental Responsiveness, ER, and Resilience



Note. Standardized regression coefficients for the relation between parental responsiveness scores on the PBI and scores on the CD-RISC as partially mediated by the DERS. The standardized regression coefficient that shows the direct effect between parental responsiveness and resilience is in parentheses.

*Statistically significant at the $p < .01$ level

Table 6

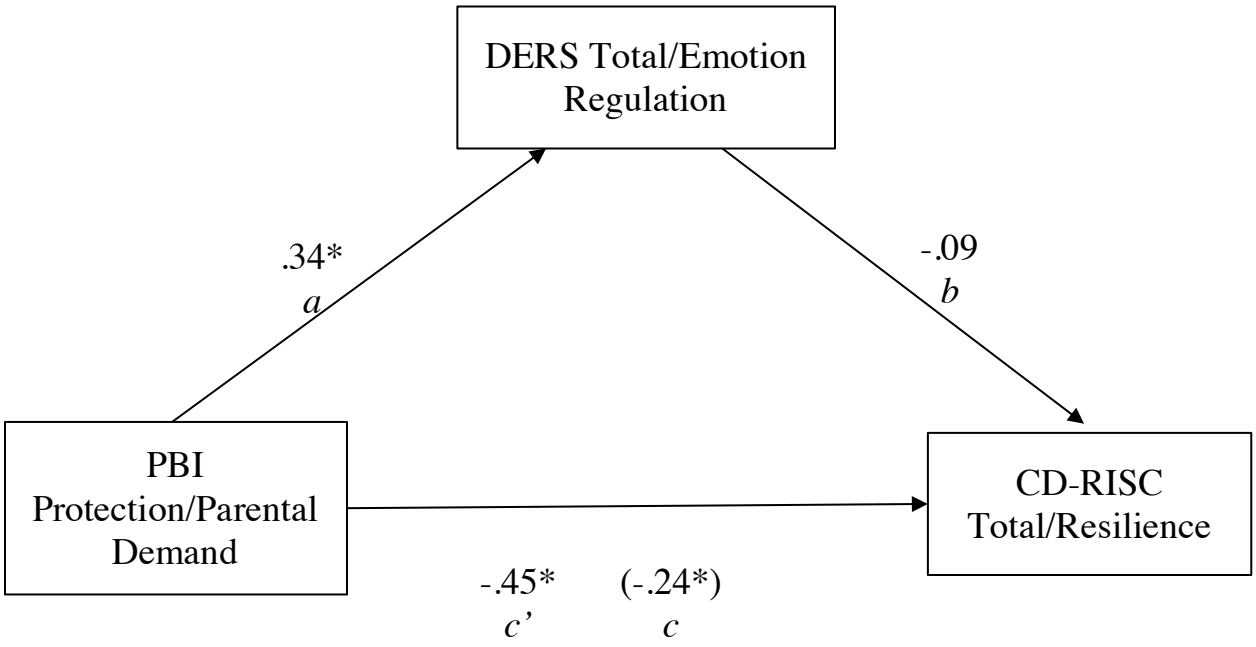
Summary Model of ER as a Mediator of Parental Responsiveness and Resilience

Predictor	*B*	*SE*	*t*	*p*
Parental Responsiveness to ER (Path *a*)	-1.36	.28	-4.90	< .001
ER to Resilience (Path *b*)	.58	.14	4.04	< .001
Parental Responsiveness to Resilience (Path *c*)	.87	.15	5.91	< .001
Parental Responsiveness to Resilience (Path *c'*)	-.21	.04	-5.67	< .001

A second mediation analysis was conducted with parental demand as the predictor variable, resilience as the criterion variable, and emotion regulation as the mediator variable. Figure 2 shows standardized path coefficients. The indirect effect of parental demand from the PBI on resilience from the CD-RISC (*ab* = -.15) was statistically significant as CIs (-.24, -.08) at the 95% confidence interval did not include zero. Additionally, the direct effect of parental demand scores on the PBI on resilience scores on the CD-RISC remained significant (*c'* = -.45, *t* = -6.39, *p* < .001) after accounting for the mediator. This suggests a partial mediation. Table 7 contains a summary for this mediation model.

Figure 2

Mediation Model of Parental Demand, ER, and Resilience



Note. Standardized regression coefficients for the relation between parental demand scores on the PBI and scores on the CD-RISC as partially mediated by the DERS. The standardized regression coefficient that shows the direct effect between parental demand and resilience is in parentheses.

*Statistically significant at the $p < .01$ level

Table 7

Summary Model of ER as a Mediator of Parental Demand and Resilience

Predictor	*B*	*SE*	*t*	*p*
Parental Demand to ER (Path *a*)	1.24	.26	4.78	< .001
ER to Resilience (Path *b*)	-.17	.14	-1.25	.21
Parental Demand to Resilience (Path *c*)	-.48	.15	-3.29	.001
Parental Demand to Resilience (Path *c'*)	-.25	.04	-6.39	< .001

CHAPTER V

DISCUSSION

Trauma occurs across the lifespan. Resilience, as a response to a traumatic experience, can similarly vary across the lifespan as trauma exposures have the potential to accumulate. Specifically, protective factors that can support resilience after trauma exposure, including parenting behaviors and emotion regulation, were of interest in this study. The present study expands available research examining resilience and factors that explain a resilient response, given previous trauma experiences, parenting behaviors, and emotion regulation skills.

Age and Resilience

It was hypothesized that older participants would be significantly more resilient than younger participants. The results showed that total scores on the CD-RISC were higher for participants aged 26-50+ years than those between 18-25 years. However, this finding should be interpreted with caution due to the limited number of participants and wide age range among the older adult group. Findings from the present study were consistent with previous research that documents everyone experiences adverse events that may impact their abilities to cope in adulthood (Arici-Ozcan et al., 2019). As people age and gain more life experiences, there are more opportunities to exhibit resilience (Lane, 2020). This relationship was found when looking specifically at traditional college-aged youth and adults (Lane, 2020), similar to the study's sample. Previous research also suggests differences in resilient responses across life stages (e.g., children/adolescents, adults; Hu et al., 2015). The developmental periods of participants in the study included emerging adulthood and adulthood, defined by distinctive changes to social support systems and other systems that relate to current functioning (Madewell & Ponce-Garcia, 2016). This group could also be characterized as traditional and non-traditional college students,

as most participants were from a university setting. These two groups have similarly been found to exhibit differences in resilience (Chung et al., 2017).

Gender and Resilience

It was predicted that women would report significantly higher levels of resilience compared to men. However, the results did not support the hypothesis, suggesting that total resilience scores were not significantly different between women and men. Previous research had illustrated that women were more likely to experience an ACE than men (Bruskas & Tessin, 2013). Therefore, if women were suspected to be more likely to have exposure to adverse experiences, then there would be more chances to exhibit a resilient response. This finding may be associated with how resilience is defined in previous literature and conceptualized in this study. Hirani and colleagues (2016) identified mixed findings regarding resilience between women and men. This pattern may be explained by how resilience is defined and if differences in gendered expectations to respond to a traumatic or stressful event between women and men are addressed in these conceptualizations. Though the CD-RISC has good reliability and external validity in its assessment of resilience, additional measures may be needed to identify nuanced differences in this phenomenon across genders. Moreover, an increased number of male participants may help confirm this trend.

Trauma and Resilience

It was predicted that higher ACE scores would be significantly related with higher resilience scores. Results from the present study identified that people with higher total ACE scores were more likely to have lower resilience scores, a finding that was not consistent with the hypothesis. However, these results support previous resilience research on chronic or frequent amounts of stress, indicative of higher ACE scores. Feifer (2019) illustrated that people can be

resilient to stress to a certain extent. However, when there is too much stress or adverse experiences present, individuals struggle to sustain the same level of resilience. The relationship can be described as an inverse parabolic curve. This pattern is essential when considering trauma and resilience across the lifespan and measuring cumulative stress (Laurent et al., 2017).

Race, Ethnicity, and Resilience

It was hypothesized that people of color would experience more resilience compared to White participants. Contrary to my hypothesis, the results indicated that participants across race and ethnicity did not have statistically different resilience scores. Previous research (e.g., McKnight-Eily et al., 2021; Sacks & Murphey, 2018) suggests that trauma exposure does not occur equally across racial and ethnic identities. Unfortunately, the current sample included a limited number of participants of color. Thus, only participants who identified as White non-Hispanic, White Hispanic, Black non-Hispanic, and Black Hispanic were included in the statistical analyses. These studies have not included adverse experiences specific to childhood and adolescence, nor current resilience in adulthood across race and ethnicity. Though the results of the present study accurately describe the current resilience of the sample population, it would be intriguing to identify the pattern across a larger sample.

Parenting Behaviors and Resilience

It was predicted that increased parental responsiveness would significantly predict more resilience. The results of the present study identified that increases in parental responsiveness predicted higher levels of resilience, a finding that supports the hypothesis and is consistent with previous research that has shown that parents who display care and warmth towards their children are likely to have children who grown into adults with positive psychological well-being (Kuppens & Cuelemans, 2019; Nie et al., 2022). Similarly, it was hypothesized that lower

parental demand would significantly predict more resilience, which was supported in the results. This finding similarly supports previous research in that parents who exhibit a more significant amount of control, particularly towards their children, result in more challenges with their overall psychosocial functioning in childhood and later on in adulthood (Hoeve et al., 2011). Though this is challenging to match up with any parenting style, this distinguishes the difference in important parenting behaviors described by different parenting styles. Though previous research supports high levels of parental responsiveness outright in connection with the authoritative parenting style (Baumrind, 1971), it is also associated with other parenting styles that have been documented to potentially result in impacts on a child's psychological functioning across the lifespan (i.e., permissive parenting style). High levels of parental demand are also associated with the authoritative parenting style (Baumrind, 1971) and other parenting styles associated with potential adverse outcomes (i.e., authoritarian parenting style). It is interesting to possibly interpret a threshold of parenting behaviors, similar to an inverse curve when describing total ACEs and resilience.

Parenting Behaviors, ER, and Resilience

It was predicted that increased parental responsiveness, and decreased parental demand, would significantly predict emotion regulation. Results illustrated that high scores for parental responsiveness and low scores for parental demand, measured by the PBI, significantly predicted low scores of difficulties with emotion regulation, as measured by the DERS. Both high scores for parental responsiveness and low scores for parental demand suggest parenting behaviors best described by the authoritative parenting style (Baumrind, 1971). As the authoritative parenting style has often been associated with positive outcomes for children later in adulthood (Kuppens & Cuelemans, 2019), this finding similarly supports previous research.

Lastly, it was hypothesized that emotion regulation would have a mediating effect on the relationship between parental behaviors and resilience. The findings from the present study identified a partial mediation of emotion regulation between parental responsiveness or demand and resilience. This result partially supported the hypothesis, as a complete mediation was predicted. Though limited research was found on mediation with emotion regulation between parenting behaviors and resilience, it was interesting to find a partial mediation. Utilizing different aspects of emotion regulation to overcome any adverse experiences prior to adulthood with supportive parenting behaviors demonstrated in childhood and adolescence was suggested to have been replicated in adulthood (Arici-Ozcan et al., 2019; Ullman et al., 2014). However, this result also suggests that a significant amount of variance is explained by emotion regulation in predicting resilience based on either parenting behavior, but that additional variables may explain this relationship. For example, more individualized psychosocial aspects of well-being may help explain the relationship between parenting behaviors and resilience, such as self-worth concerning relationships with caregivers (Lim et al., 2012). Additional variables such as this would provide more insight into resilience as individualized processes in the face of stress vary considerably.

Implications

Because resilience was statistically more significant for participants older than 25, it suggests that people are more likely to exhibit a resilient response as they age. This result demonstrates that skills that promote a resilient response are used across the lifespan and should continue to be developed and reinforced. Hamby and colleagues (2016) identified the cumulative effect of trauma and resilience from childhood into adulthood. As children are exposed to and develop resilience strategies, along with the presence of additional protective factors, the more

likely it is to see a resilient response following a stressful event later in life. Additionally, practicing these strategies supports previous research identifying benefits to emotional and physiological stress responses, such as mindfulness and active problem-solving (Carsley et al., 2018; Helmreich et al., 2017). The results in the present study and the effectiveness of such strategies and interventions suggest that short-term and long-term benefits of interventions can be seen at any point. Furthermore, it indicates no particular time when such interventions are most effective. Instead, the benefits may be identified shortly at a young age and continue to grow if those supports are available across the lifespan.

No significant differences were found in resilience across gender. This result did not support Hypothesis 2 and has some implications. First, women and men encounter different implicit and explicit gender and social norms (Cislaghi & Heise, 2020). People of these two genders are influenced by their experiences and other people's actions and reinforced by others' approval or disapproval. This pattern reinforces their actions in accordance with gender and social norms (Cislaghi & Heise, 2020). These norms also occur by potentially resilient responses across gender but are not necessarily addressed in our definition of resilience (Hirani et al., 2016; Sisto et al., 2019). How resilience is defined also impacts researchers' ability to measure resilience. For example, if women do not engage in resilient behaviors following gender norms and continue to not do so after an adverse event, they would be considered not to be resilient. Though the CD-RISC in this study is a reliable and valid measure of resilience, assessment tools should consistently measure resilience across genders. This situation can similarly be applied to accurately measuring resilience among other diverse populations, such as race, ethnicity, sexuality, and socioeconomic status (Clauss-Ehlers, 2008).

No significant differences were identified in total resilience scores across race and ethnicity, including White non-Hispanics, White Hispanics, Black non-Hispanics, and Black Hispanics. There has been limited previous research concerning resilience across racial and ethnic minorities specific to traditional and expanded ACEs. Though no significant differences were identified, the results from the present study provide insight into the different strategies and characteristics found in a resilient response across racial and ethnic minorities. Additionally, knowing the documented disparities in social justice and mental health care resources for people of color compared to White people (LaBrenz et al., 2020), the present results also provide insight into similar resilient responses despite varying contexts. Though the generalizability is challenging to determine due to the limited context in which the sample was collected and the number of participants of all racial and ethnic identities was limited, the collected results and interpretations are essential to understanding the relationship between trauma prior to adulthood and current resilience.

The present results suggested that a more significant amount of parental responsiveness and a lower amount of parental demand is statistically significant among higher levels of resilience. This result suggests implications in the type of parenting behaviors utilized, which reflect an overall parenting style. Parenting behaviors and styles in childhood and adolescence ultimately impact an individual's psychological and behavioral functioning as an adult (Pinquart & Kauser, 2018). Parenting behaviors associated with parenting styles are typically consistent (Smetana, 2017). Additionally, parenting behaviors and experiences children have with their parents are cumulative in effect (Bai & Repetti, 2015). Specifically, these experiences are cumulative in children’s responses to stressful events, including ACEs. Whether their response is initially resilient or not, these experiences are lasting in resilience later in their life. It is essential

to ensure that relationships between caregivers and children are positive and that parenting behaviors are balanced with responsiveness and demand.

Additionally, as parents are often viewed as protective factors, or at least as potential members of a social support system, positive parenting behaviors must remain consistent across developmental periods (Bai & Repetti, 2015), though the cumulative effects of either positive or negative parenting behaviors are documented, the presence of parental warmth and control at any point can also be effective in avoiding potential adverse events and limiting or reducing the adverse effects of traumatic experiences (Bai & Repetti, 2015). The implications of this previous research and the results of the present study suggest that future parenting styles that include parental responsiveness and parental demand can support increasing resilience in short-term and long-term contexts.

ER was also found to have a significant relationship in predicting resilience and a partial mediation between parenting behaviors and resilience. Many aspects of ER are related to resilience, including mindfulness, emotional awareness, and emotional clarity (Carsley et al., 2018; Cooper et al., 2018). These skills are essential for demonstrating growth following an adverse experience and resilience after future stressful events. The results from the present study also suggest that with strong skills in ER, actively using these strategies can support continued resilience from adverse events during childhood and adolescence. Additionally, the significant direct and indirect relationship between parenting behaviors and resilience suggests that parenting behaviors demonstrated during childhood and adolescence help both ER strategies and resilience that may occur during adulthood. Parents help model successful ER strategies and provide encouragement and support in using adaptive ER skills toward a positive, resilient response to a distressing event. These skills are all helpful across the lifespan. Additionally,

individuals who demonstrate difficulties with ER may need support in utilizing skills appropriately to help support resilience. Researchers and practitioners must understand the relationship between the environmental contexts that precede a resilient response and the possible supports for resilience, including parental responsiveness, parental demand, and ER.

Implications for School Psychology

School psychologists have a unique position in implementing systemic interventions and conducting comprehensive social-emotional assessments in school-based settings (Jimerson et al., 2004). School psychologists also serve populations outside traditional K-12 school buildings, including other public settings such as universities and community-based mental health centers. In such public treatment settings, school psychologists have the opportunity to help reduce vulnerability to adverse events that could lead to a trauma response (Mao & Agyapong, 2021). Through efforts to reduce the impact of adverse events, interventions may also be implemented to increase resilience (Carsley et al., 2018). However, researchers and practitioners should thoroughly understand the pathway between trauma and resilience across demographic factors and contexts. By implementing interventions supported for improved resilience with fidelity in public settings, lasting positive impacts in regard to PTG may be observed in the general population.

School psychologists are also agents of change, particularly regarding system-level work, advocacy, and public policy (Roffey, 2015). As chronic trauma has been implicated in impacts on physical and psychological well-being (Cloitre et al., 2019), public policy addressing the frequency of traumatic events, including ACEs, and supporting the occurrence of resilience are necessary. Such policies have previously included identifying racial and gender inequalities in vulnerability to trauma and limited resilience (Bowen & Murshid, 2016). Additional policies are

needed to include other known variables in the relationship between trauma and resilience, including support for an increased number of protective factors, resources to develop improved caregiver-child relationships, and ER strategies that also promote resilience (Cloitre et al., 2019; Yule et al., 2019). In addition to implementing social-emotional interventions that target increased resilience, these interventions should be designed to ensure they are socially just (Shriberg & Clinton, 2016) regarding access and effectiveness.

Resilience also reflects success in many domains of functioning. For children and adolescents, this also applies to higher academic achievement. Adverse experiences that students may experience, and consequential symptoms and behaviors associated with trauma, are observed across settings (Wolmer et al., 2016). Though school psychologists are trained in designing and implementing interventions to target these behaviors and increase resilience, teachers also are responsible for following the intervention. However, trauma responses within the classroom can be complex, which may require consultation from school psychologists familiar with addressing complex behaviors. Addressing behaviors associated with trauma, ER difficulties, and resilience by school personnel and mental health professionals can help children and adolescents succeed academically and social-emotionally. These skills can also be utilized in higher education settings, such as college and university (García-Martínez et al., 2022).

Limitations

Regardless of the gaps that the present study addressed while considering the occurrence of resilience, some limitations should also be reported. The first limitation of this study is the sample's demographics. There was an overwhelming representation of college-aged students in the sample. This pattern was likely due to most participants being recruited on a university campus—additionally, a large majority of the participants identified as female. Furthermore, the

data had a majority representation of participants who identified as White. Moreover, the sample was primarily recruited from a university that has a unique student population in that student demographics include more students of color, first generation students, veterans, and nontraditional students than are found in more typical college settings. These patterns among the data can potentially decrease the study's external validity and implications. These limitations may be amended by sampling participants from settings other than an urban university setting in the South and perhaps having studies focusing on specific racial and ethnic minorities.

Another limitation in the results is excluding some participants from statistical analyses based on race and ethnicity. For example, in looking at the relationship between ethnicity and resilience, the overall number of participants across groups for racial and ethnic minorities was limited. Therefore, it was determined to limit this analysis to participants who identified as White non-Hispanic, White Hispanic, Black non-Hispanic, and Black Hispanic. However, in grouping individuals' identities together that may seem homogenous, it limits the likely range of experiences that each person has, particularly regarding trauma, parental behaviors, and resilience. This also impacts the generalizability of the present results.

Other results that were done with a restricted number of participants (e.g., age, gender) have limitations in generalizing the implications of these trends. More participants in other age ranges or gender identities would be needed to determine definitively if these trends are replicated.

Similarly, the number of participants who experienced any number of ACEs was not equal, making it difficult to determine if there is a threshold in which participants could still exhibit a resilient response or experience difficulty coping with the traumatic event. The means plot for the analysis of Hypothesis 3 is included in Appendix H. Overall, a lack of diversity in the

sample may have limited the ability to answer the intended research questions to the fullest extent. A lack of a diverse sample will prevent strong external validity from being achieved.

Additionally, as this research design was correlational, causation cannot be inferred from the results provided by the measures mentioned above. If causation is to be determined, an experimental design would be required. Additionally, the study aimed to identify long-term resilience from traumatic events that occurred during childhood or adolescence. To accurately identify long-term effects, a longitudinal study may be an ideal research design compared to a cross-sectional research design regarding generalizing results.

When measuring parenting styles used according to offsprings' perspectives of their parents' behaviors and attitudes in rearing children, Kuppens and Cuelemans (2019) suggested that offspring may have biases, particularly towards non-authoritative parenting styles. For example, Smetana (2017) identified that children of parents who used either an authoritarian or permissive parenting style viewed them as more authoritarian or permissive than their parents' assessment of themselves. Therefore, participants may have held biases against their parents that skewed the accuracy of the data. Moreover, during the presentation of the PBI, the full name of the measure, including the word "Parent," was displayed. Though a prompt was given to think of either a parent or caregiver that was in their household while growing up, the name of the measure could have primed participants to respond in a either positive or negative manner, or be more or less inclined to respond about parental behaviors when other caregivers may have been present.

Generalizability is also challenging to achieve due to the nature of the self-report measures being used to assess the other variables. The results may have been impacted due to

biases, such as social desirability. Similarly, these reports may not accurately represent direct observations if a trained researcher conducted them.

Future Directions

Though the present study addressed the research questions that were proposed, additional questions could be addressed in the future with this research. In the future, collecting additional demographic data from participants, specifically regarding their parents, such as parental age and household income during childhood and adolescence, would be beneficial. The participant's age could help identify patterns in parental behaviors utilized depending on the date the participant was a child or teenager. Furthermore, this could be helpful in further identifying differences in resilience across diverse populations regarding socioeconomic status.

Collecting more specific demographic information about participants' households may be informative, such as how many caregivers were in their household while growing up. The PBI allowed participants to provide information about one or more caregivers concerning parenting behaviors (Parker et al., 1979). Though this addressed participants with non-traditional families, it did not explicitly ask participants about the number of caregivers they had. This information may have been helpful in further interpreting the results regarding parenting behaviors. Additionally, more specific information about participants' caregivers could have been requested, such as their gender identity and which role a caregiver served as (i.e., parents, grandparents, foster parent, etc.). Collecting this data would help further explain differences in parenting behaviors, including parental responsiveness and parental demand, as well as provide more insight into identifying protective factors and predicting resilience.

Moreover, the relationship between trauma exposure and resilience could be further studied if additional participant data was collected. Though research suggests that many people

have been exposed to at least one ACE by adulthood, the specific types of ACEs that might have led to a resilient response were not assessed. The Expanded ACEs Questionnaire reviewed a history of exposure to traditional ACEs and expanded ACEs (Cronholm et al., 2015; Felitti et al., 1998). The relationship could be further explored in the future by categorizing the ACEs and looking at them among resilience scores obtained through the CD-RISC. Moreover, though the Expanded ACEs study (Cronholm et al., 2015) included more people who identified their race and ethnicity as not White, the measures were conceptualized similarly from a White perspective based on experiences and symptoms of trauma among this population. Future research should continue to identify symptoms of trauma and stress among racially and ethnically diverse populations so this can be reflected in assessment tools.

Some of the findings from the present study were difficult to generalize due to the limitations of the number of participants recruited in specific demographic areas (i.e., age, gender, race/ethnicity). In the future, it would be beneficial to collect more data from participants that meet these areas to definitively identify the implications from the present results. Additionally, I might want to collect demographic data, such as with race and ethnicity, differently in the future. For example, as opposed to asking participants to just select one option, questions could be structured such that participants have the option to select one or more, and specify which race, ethnicity, origin they best identify with. This method is more inclusive of others' cultural values, traditions, and practices, as well as allow for the opportunity to gain more insights into the present findings.

Additional measures could be included in the study in the future to assess some variables. For instance, collecting information on attachment styles among children and parents could be informative when assessing parenting behaviors (Wilhelm et al., 2016). This data may be

beneficial in also assessing current protective factors collected through the SPF. Moreover, additional resilience measures could be used to specifically study trait resilience and address the different conceptualizations of resilience, particularly across gender, race, and ethnicity. In the future, more participants would ideally be recruited such that there are an equal number of participants in each category, specifically with age, gender, race, and ethnicity.

The mediation analysis identified a small amount of variance explained in predicting resilience by parental responsiveness, parental demand, and ER. Though the amount of variance explained was found to be statistically significant, it still leaves a considerable amount of variation remaining. Studying more specific ER strategies to identify how relevant certain skills are to resilience may be warranted in the future. This information may help target the design of future interventions in improving resilience.

Conclusion

Various theories (e.g., Masten, 2011; Shean, 2015; Rogers, 2007) have proposed that the occurrence of resilience and its maintenance can be explained by the relationships between parenting styles and ER separately. The present study aimed to (a) add to the literature on resilience by conceptualizing trauma in childhood and adolescence as the antecedent of a resilient response in adulthood; and (b) examine the complex relationship between dimensions of parenting styles, ER, and resilience. A better understanding of the consequences of ACEs on diverse populations and the influence of parenting styles of adaptive ER on resilience, may lead to intervention strategies and recommendations for individuals experiencing difficulty processing traumatic events. Additionally, the results of this study can inform subsequent research in an effort to understand the complexity of protective factors related to resilience.

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APPENDIX A

GLOSSARY

Bottom-up processing: a method of information processing in which a stimulus initiates higher level processes involved in identification and interpretation (Dijkstra et al., 2017)

Emotion regulation (ER): the collective internal and external processes involved in modifying the experience or expression of an emotion (Thompson, 1994)

Parenting styles: the emotional climates in which parents/guardians raise children (Argyriou et al., 2016; Smetana, 2017)

Posttraumatic growth: a significant positive change following an adverse event (Bernstein & Pfefferbaum, 2018)

Resilience: the ability to maintain one's orientation towards existential purposes despite enduring adversities and stresses (Sisto et al., 2019)

Self-actualization: the tendency for humans to thrive toward expressing their full potential when in a supportive environment and a process believed to be inherent in nearly everyone (Friedman & Robbins, 2012; Joseph, 2019; Maslow, 1971)

Top-down processing: an approach of information processing in which a general conceptualization of a stimulus is applied to and affects the assessment of other incoming stimuli in the perceptual process (Gaspelin & Luck, 2018)

Trauma: An event, series of events, or set of circumstances that is experienced by an individual is physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional spiritual well-being (SAMHSA, 2012, p. 2)

APPENDIX B

DESCRIPTIVE TABLE

Table B.1

Demographic Characteristics of Participants

Demographic variable	Full sample	
	N	%
Household income		
Less than $25,000	23	13.1
$25,000-$50,000	42	24
$50,000-100,000	37	21.1
$100,000-200,000	35	20
More than $200,000	14	8
Prefer not to say	24	13.7
Education level		
High school diploma or equivalent	46	26.3
Some college	66	37.7
Associate's degree	19	10.9

Bachelor's degree	28	16
Master's degree or above	16	9.1
Parental education level		
High school diploma or equivalent	47	26.9
Some college	25	14.3
Associate's degree	15	8.6
Bachelor's degree	43	24.6
Master's degree or above	31	17.7
Prefer not to say	14	8

APPENDIX C

CORRELATION TABLE

Table C.1

Correlations among Continuous Variables

Measure	2	3	4	5	6	7	8	9
1) Participant Race and Ethnicity (n = 154)	-.323**	.109	.127	-.12	.239**	.221**	-.141	-.089
2) Participant Age (n = 175)	-	-.107	-.127	-.07	-.194*	-.368**	.161*	.172*
3) Participant Gender (n = 175)	-	-	-.024	-.021	.107	.142	.023	-.064
4) Total ACEs (n = 175)	-	-	-	-.525**	.403**	.281**	-.314**	-.238**

5) Parental Responsiveness (n = 175)	-	-	-	-	-.465**	-.349**	.547**	.410**
6) Parental Demand (n = 175)	-	-	-	-	-	.342**	-.289**	-.243**
7) Emotion Regulation (n = 175)	-	-	-	-	-	-	-.496**	-.482**
8) Protective Factors (n = 175)	-	-	-	-	-	-	-	.734**
9) Resilience (n = 175)	-	-	-	-	-	-	-	-

**correlation is significant below the 0.01 level

*correlation is significant below the 0.05 level

APPENDIX D

EXPANDED ADVERSE CHILDHOOD EXPERIENCES (ACES) STUDY QUESTIONNAIRE ITEMS

Prior to your 18th birthday:

1. While you were growing up how often did a parent, step-parent, or another adult living in your home swear at you, insult you, or put you down?
2. While you were growing up how often did a parent, step-parent, or another adult living in your home act in a way that made you afraid that you would be physically hurt?
3. Did a parent or other adult in the household often or very often push, grab, slap, or throw something at you?
4. While you were growing up did a parent, step-parent, or another adult living in your home hit you so hard that you had marks or were injured?
5. Did an adult or person at least five years older than you ever touch or fondle you or have you touched in a sexual way?
6. Or attempt to have or actually have any type of sexual intercourse, oral, anal or vaginal with you?
7. Did you often or very often feel that no one in your family loved you or thought you were important or special?
8. Did you often or very often feel that no one in your family did not look out for each other, feel close to each other, or support each other?
9. Did you often or very often feel that you did not have enough to eat, had to wear dirty clothes, and had no one to protect you?

10. Or often or very often feel that your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
11. Was a biological parent ever lost to you through divorce, abandonment, or other reason?
12. Was your mother or stepmother often or very often pushed, grabbed, slapped, or had something thrown at her?
13. Or sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
14. Or ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
15. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
16. Was a household member depressed or mentally ill?
17. Or did a household member attempt suicide?
18. Did a household member go to prison?
19. How often, if ever, did you see or hear someone being beaten up, stabbed, or shot in real life?
20. While you were growing up, how often did you feel that you were treated badly or unfairly because of your race and ethnicity?
21. Did you feel safe in your neighborhood?
22. Did you feel people in your neighborhood looked out for each other, stood up for each other, and could be trusted?
23. Were you bullied by a peer or classmate?
24. Were you ever in foster care?

APPENDIX E

PARENTAL BONDING INSTRUMENT (PBI) ITEMS

1. Spoke to me with a warm and friendly voice

2. Helped me as much as I needed

3. Let me do those things I liked doing

4. Seemed emotionally cold to me

5. Appeared to understand my problems and worries

6. Was affectionate to me

7. Liked me to make my own decisions

8. Did not want me to grow up

9. Tried to control everything I did

10. Invaded my privacy

11. Enjoyed talking things over with me

12. Frequently smiled at me

13. Tended to baby me

14. Did not seem to understand what I needed or wanted

15. Let me decide things for myself

16. Made me feel I wasn't wanted

17. Could make me feel better when I was upset

18. Did not talk with me very much

19. Tried to make me dependent on her/him

20. Felt I could not look after myself unless she/he was around

21. Gave me as much freedom as I wanted

22. Let me go out as often as I wanted

23. Was overprotective of me

24. Did not praise me

25. Let me dress in any way I pleased

APPENDIX F

DIFFICULTIES IN EMOTION REGULATION SCALE (DERS) ITEMS

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I'm upset, I acknowledge my emotions.
11. When I'm upset, I become angry with myself for feeling that way.
12. When I'm upset, I become embarrassed for feeling that way.
13. When I'm upset, I have difficulty getting work done.
14. When I'm upset, I become out of control.
15. When I'm upset, I believe that I will remain that way for a long time.
16. When I'm upset, I believe that I'll end up feeling very depressed.
17. When I'm upset, I believe that my feelings are valid and important.
18. When I'm upset, I have difficulty focusing on other things.
19. When I'm upset, I feel out of control.
20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed with myself for feeling that way.

22. When I'm upset, I know that I can eventually find a way to feel better.

23. When I'm upset, I feel like I am weak.

24. When I'm upset, I feel like I can remain in control of my behaviors.

25. When I'm upset, I feel guilty for feeling that way.

26. When I'm upset, I have difficulty concentrating.

27. When I'm upset, I have difficulty controlling my behaviors.

28. When I'm upset, I feel like there is nothing I can do to make myself feel better.

29. When I'm upset, I become irritated with myself for feeling that way.

30. When I'm upset, I start to feel very bad about myself.

31. When I'm upset, I believe that wallowing in it is all I can do.

32. When I'm upset, I lose control of my behaviors.

33. When I'm upset, I have difficulty thinking about anything else.

34. When I'm upset, I take time to figure out what I'm really feeling.

35. When I'm upset, it takes me a long time to feel better.

36. When I'm upset, my emotions feel overwhelming.

APPENDIX G

SCALE OF PROTECTIVE FACTORS (SPF) ITEMS

1. I am good at starting new conversations
2. My friends and/or family keep me up to speed on important events
3. I am good at making new friendships
4. My friends and/or family are supportive of one another
5. When working on something, I make a list of things to do in order of importance
6. I am confident in my ability to solve problems
7. My friends and/or family spend free time together
8. When working on something, I set priorities before I start
9. I am confident in my ability to succeed
10. I am confident in my ability to think out and plan
11. I am confident in my ability to think on my feet
12. I am good at working with others as part of a team
13. I am good at socializing with new people
14. I am confident in my ability to achieve goals
15. When working on something, I organize my time well
16. I am good at interacting with others
17. I am good at being with other people
18. When working on something, I plan things out
19. I am confident in my ability to make good decisions/choices
20. My friends and/or family see things the same way as I do
21. My friends and/or family are seen as united

22. When working on something, I do better if I set a goal

23. My friends and/or family are optimistic

24. When working on something, I can see the order in which to do things

APPENDIX H

CONNOR-DAVIDSON RESILIENCE SCALE (CD-RISC) ITEMS

1. I am able to adapt when change occurs.
2. I have one close and secure relationship.
3. Sometimes fate or God helps me.
4. I can deal with whatever comes my way.
5. Past successes give me confidence.
6. I try to see the humorous side of things when I am faced with problems.
7. Having to cope with stress can make me stronger.
8. I tend to bounce back after illness, injury, or other hardships.
9. I believe most things happen for a reason.
10. I make my best effort, no matter what.
11. I believe I can achieve my goals, even if there are other obstacles.
12. Even when hopeless, I do not give up.
13. In times of stress, I know where to find help.
14. Under pressure, I stay focused and think clearly.
15. I prefer to take the lead in problem-solving.
16. I am not easily discouraged by failure.
17. I think of myself as a strong person when dealing with life's challenges and difficulties.
18. I make unpopular or difficult decisions.
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.
20. I have to act on a hunch.
21. I have a strong sense of purpose in life.

22. I feel like I am in control.

23. I like challenges.

24. I work to attain goals.

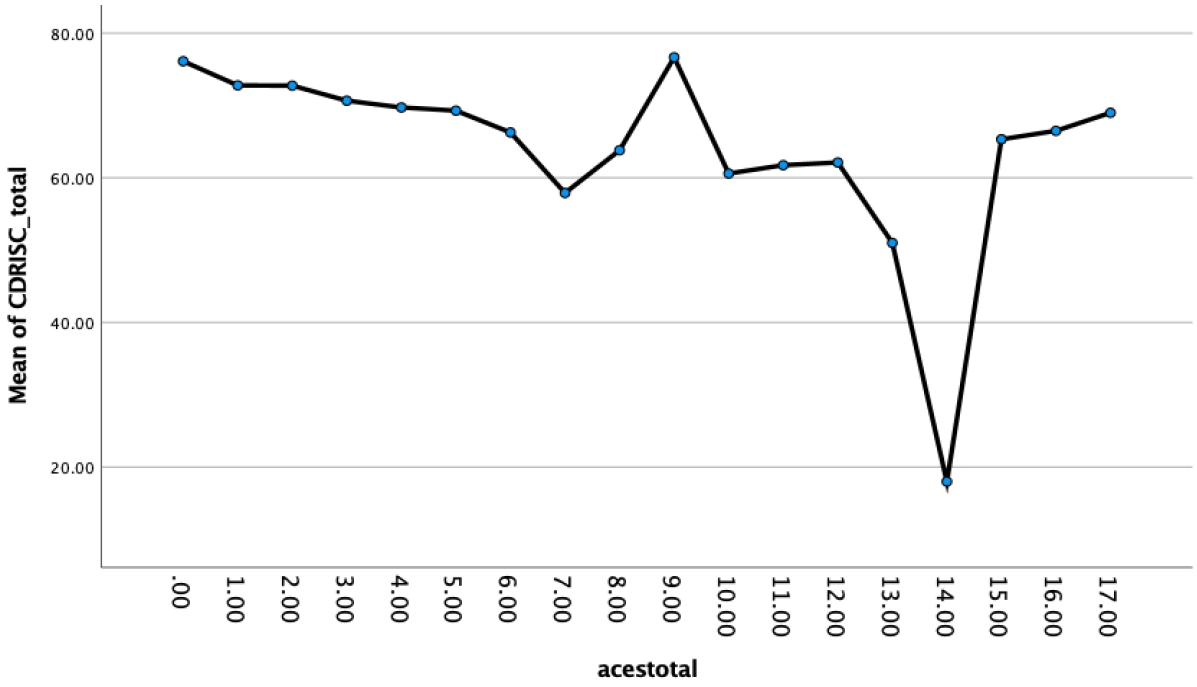
25. I take pride in my achievements.

APPENDIX I

MEANS PLOT OF TOTAL ACE AND CD-RISC SCORES

Figure I.1

Means Plot of Total ACE and CD-RISC Scores



Note. Means plot of total ACE scores on the Expanded ACE Questionnaire and mean CD-RISC total scores. This demonstrates the possibility of a threshold in which a person could exhibit higher levels of resilience despite a high level of stress.