

Effect of Trauma on Oppositional Defiance Symptom Severity

A Dissertation

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by

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Author Notes

I have no known conflicts of interest to disclose

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Table of Contents

List of Tables	4
List of Figures	5
Abstract	6
Chapter 1	7
Effect of Trauma on Oppositional Defiance Symptom Severity	7
Disruptive, Impulse-Control, and Conduct Disorders	7
ODD	8
Trauma and Its Origins	9
Childhood Trauma	10
Sexual and Physical Trauma	11
Theoretical Explanations	13
Developmental Trauma	14
Attachment Theory	19
Attachment Trauma	22
Socio-Emotional and Behavior	25
PTSD in Children and Cooccurring Disorders	28
Oppositional Defiance and Trauma	29
The Present Study	34
Study Purpose	36
Chapter 2	37
Study Design and Methodology	37
Research Question(s)/Hypotheses	38
Participants	39
Measures	42
Demographic Questionnaire	42
ACES-Q	42
DBRS	43
Symptom Severity Question	45
Procedure	45
Summary	51
Chapter 3	52
Demographic Variables	52
Participant Characteristics	52
Oppositional Defiant Disorder Symptom Severity by Trauma Type and SES	55
Ordinal Logistic Regression Analyses	57
Assumptions	57
Results	58
Chapter 4	60
Interpretation of Findings	61
Trauma Type and Symptom Severity	62
SES and Symptom Severity	63
Interaction Between SES and Trauma on Symptom Severity	63
Theoretical Implications	64
Trauma Complexity and Socioeconomic Considerations	65
Clinical Implications	68

Limitations	70
Future Research Directions	73
Conclusion	75
References	77
Appendices.....	106
Appendix A Sample Script to Facebook Admins	106
Appendix B Recruitment Post Example	107
Appendix C Sample Advertisement on Prolific.....	108
Appendix D Informed Consent.....	109
Appendix E Demographic information.....	110
Appendix F Adverse Childhood Experiences Questionnaire (ACE-Q)	111
Appendix G Disruptive Behavior Rating Scale (DBRS).....	113
Appendix H ODD Symptom Severity	114

List of Tables

Table 1. Frequency Table for Nominal and Ordinal Variables	53
Table 2. Frequency Table for ODD Symptom Severity Filtered by Trauma Type and SES	56
Table 3. Variance Inflation Factors for Trauma Type, SES, and Trauma Type x SES	57
Table 4. Ordinal Logistic Regression Results for Trauma Type and SES at predicting ODD Symptom Severity.....	59

List of Figures

Figure 1. Bar Plot of Trauma Type by ODD Symptom Severity	56
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Abstract

The current study examined the relationship between physical and sexual traumatic events on oppositional defiant disorder (ODD) symptomatology. Previous researchers have not identified the precedence of variables, direction, and strength of the relationship between trauma and ODD. The study aimed to address those gaps in literature and understand the unique relationship between traumatic experiences and ODD symptomatology. This study used participants aged 18 or older who reported past experiences in childhood and adolescence and may have experienced disruptive behavior symptoms. Current research has found some connection to effects of trauma on how children respond to their environment, both behaviorally and emotionally. Effects of trauma and risk factors, including adversity, neglect, and maltreatment, have profound effects on the development of young children (Webster, 2022). Children are more inclined to respond to trauma with misbehavior and emotional dysregulation if they do not have adequate support and coping strategies. Therefore, it can be simple to focus on fixing behavior rather than what responses communicate. It is essential to examine children facing extreme adversity and trauma to better understand how we can help and support them as a community. The current study aimed to identify if an ODD diagnosis was predictive of individuals with an experience of physical or sexual trauma.

Keywords: oppositional defiant disorder, trauma, adversity, neglect, childhood

Chapter 1

Effect of Trauma on Oppositional Defiance Symptom Severity

Nearly half of the child population has experienced some form of trauma in their lifetime, with over 90% of sexually abused youth developing posttraumatic stress disorder (PTSD; Felitti et al., 1998; The National Council, 2022). Trauma can mimic symptoms of somatic, emotional, behavioral, and cognitive difficulties (The National Council, 2022). Thus, children may be diagnosed by a professional with disruptive behavior, trauma/stress-related, depressive, or anxiety disorders (American Psychiatric Association [APA], 2013). It is important to understand contributing factors to the development and psychopathology of mental disorders in children. Previous research on oppositional defiant disorder (ODD) has focused primarily on behavioral presentation and intervention, emphasizing need for literature to expand upon current understanding of ODD symptomatology and other exacerbating factors. This research aimed to identify potential treatments, supports, and prevention methods for the development of childhood psychopathology.

Disruptive, Impulse-Control, and Conduct Disorders

According to APA (2013), disruptive, impulse-control, and conduct disorders are characterized by problems with self-control of emotions and behavior. This category encompasses a variety of diagnoses, including ODD and conduct disorder (CD; APA, 2013). Additionally, attention deficit hyperactivity disorder (ADHD), a common comorbid condition, was included in current research within this diagnostic category but has typically been categorized as a neurodevelopmental disorder. Children with disruptive, impulse-control, and CDs may violate rights of others through aggression and property destruction while expressing discord toward authority figures and societal norms (APA, 2013). These disorders are most

commonly diagnosed in children, with a prevalence of 6.1% in the United States (The Recovery Village, 2021).

ODD

ODD is a pattern of an angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting longer than 6 months and present within one or more settings (APA, 2013). Children with ODD have problematic interactions with their peers, adult figures, and family members (APA, 2013; Munkvold et al., 2011). Furthermore, they may exhibit a consistent pattern of defiance, which can impact their daily functioning and interpersonal relationships. They typically experience disruption across various situations and settings (Northlake Behavioral Health System, 2024). The disorder generally manifests around preschool and can continue into childhood and adolescence (APA, 2013). Children with ODD have a lifetime prevalence of 11.2%, suggesting symptoms can continue into adulthood and lead to future dysfunction (The Recovery Village, 2023). Therefore, children can be at a greater risk for future dysfunction, including antisocial behavior, impulse-control issues, substance abuse, anxiety, depression, and lack of adjustment in adulthood (APA, 2013).

In addition, ODD symptom presentation can include pervasive negative affect, problematic behaviors, and interactions (Munkvold et al., 2011). According to APA (2013), an angry and irritable mood is not typically required to meet full diagnostic criteria. Still, behavioral presentations of ODD commonly co-occur with a negative mood. Researchers have further acknowledged ODD symptomatology as a response to the child's perceived unreasonable expectations and demands. This presentation questions other causal factors, such as hostile parenting and how these might contribute to development of future problematic interactions. Therefore, current research informing diagnostic practice has struggled to identify the impact of

alternative factors, such as trauma, low socioeconomic status (SES), and parenting practices, in development of ODD symptomatology. The primary focus in this study was to investigate ODD symptomatology, clarifying whether the study examined the long-term impacts of ODD diagnosed in childhood on adulthood functioning. Examining environmental risk factors during childhood is critical to understanding how best to support the individual and reduce contributing factors.

According to van der Kolk (2014), children with ODD can commonly be mislabeled as many exhibit these behaviors in response to their environment. van der Kolk explained how children labeled with ODD, CD, and attachment disorder have been misunderstood. As a result, some clinicians have failed to understand the range of rage and withdrawal behaviors as a means of survival. By missing the full picture of how a child has coped with life's adversities and focusing only on behavior, clinicians are doing a disservice to children they serve and protect. The link between trauma and adverse childhood experiences (ACEs) has been recognized, but its impact is unknown for those diagnosed with ODD (Felitti et al., 1998).

Trauma and Its Origins

Trauma was first recognized by German neurologist Oppenheim (1889) as a *traumatic neurosis* in which a person had a medical predisposition to developing neurosis symptoms. The APA (1994) recognized *trauma* as defined by exposure to actual or threatened death, serious injury, or sexual violence. Psychological trauma was created by conditions of and after World War I when soldiers presented with psychological problems (van der Kolk et al., 1996). Trauma remained a recognized medical condition for most of the late 18th century, with theorists emphasizing inadequacies of the molecular brain, nervous system, or cardiac irregularities (Myers, 1915; Oppenheim, 1889; van der Kolk et al., 1996). The term *shell shock* came out of

this era, where emotional disturbance was attributed to medical predisposition (Myers, 1915; van der Kolk et al., 1996). Many future theorists later recognized traumatic presentations as failures of willpower, with treatment focused on strengthening their will (Fischer-Homberger, 1975; van der Kolk et al., 1996). However, a trauma diagnosis was still highly stigmatized.

Trauma became more widely recognized by Pierre Janet, Sigmund Freud, Jean-Martin Charcot, and Alfred Fournier, stepping away from medical and genetic inadequacies (van der Kolk et al., 1996). Early theorists became invested in the etiology of trauma from an organic cause, vulnerability, predisposition, or disintegration (van der Kolk et al., 1996). Over time, trauma theory was developed into widely recognized PTSD diagnosis (APA, 2013; van der Kolk et al., 1996). However, it remained underrecognized and misdiagnosed in pediatric populations (Spencer & Pynoos, 1985).

Childhood Trauma

Child sexual trauma was defined as forced or coerced sexual behavior imposed on a child or sexual activity between a child and an older adult, regardless of its coercive nature (Browne & Finkelhor, 1986). *Child physical abuse* was defined as intentionally inflicted physical injury accompanied by anger and frustration toward the child (Kelly, 1983; Kempe et al., 1962). Physical and sexual abuse are forms of child maltreatment, but do not include all incidences of traumatic experiences (Brown et al., 2023). Other forms could include child neglect, emotional abuse, threats of harm, or witnessing traumatic experiences (Kelly, 1983). One in four children will experience trauma or neglect in their lifetime, with every 2 in 1,000 children dying as a result of trauma (Brown et al., 2023). Therefore, trauma is the second leading cause of death in children under age 1, creating long-term physical, emotional, and health consequences. Exposure to traumatic events, whether indirectly or directly, can also have profound effects on a child's

development (Alisic et al., 2011). First-wave research on sexual trauma sought to identify psychosocial childhood problems in child victims of violence (Briere, 1992). Second-wave research beginning in the 1980s focused primarily on long-term effects of sexual trauma, its related psychopathology, and how clinicians can address trauma in treatment (Briere, 1988). Researchers found complex and bizarre sexual abuse as a predictor of long-term substance abuse and self-destructive behaviors. Children were also more prone to suicidality and dissociation. Therefore, trauma can present various difficulties in childhood development, social-emotional growth, and behavior.

Sexual and Physical Trauma

Tardieu (1857) was one of the first theorists to publish medical literature on effects of child maltreatment, neglect, and abuse to bring awareness outside of the medical community (Labbé, 2005). He studied conditional maltreatment of children working in mines and factories, among those with physical injuries and experiences of sexual abuse. He described signs and effects of abuse with and without sexual penetration. His goal was to recognize the negative impact trauma, harsh working conditions, and neglect had on children, but his work was never recognized in the labor community. Partly because, at that time, children did not have rights, and family maltreatment was a private affair not to be controlled by outside influences. Fournier (1881) had a different explanation for the etiology of childhood sexual trauma, responding to Tardieu. Fournier viewed sexual trauma as creation of false memories in which children falsely accused their parents of incest. Therefore, sexual assault during this time was recognized as a result of a child's immorality and sexual impurity (Cage, 2022). Similarly, many medical doctors also disproved children's accounts if there were no physical indications of sexual trauma.

Sexual trauma for most of the 18th and 19th centuries was taboo, underresearched, and underrecognized, especially with rise of Freud's psychoanalytic theory (van der Kolk et al., 1996). Freud developed the psychoanalytic theory of hysteria, explaining symptoms as presence of recurring past experiences disintegrated from conscious awareness (Breuer & Freud, 1893; van der Kolk et al., 1996). Freud's idea was patients were fixated on their trauma, exhibiting external hysteria symptoms due to splitting of consciousness, or dissociation, of their traumatic experiences (Breuer & Freud, 1893; van der Kolk et al., 1996). As Freud's research and theory developed, he abandoned the idea of traumatic experiences in his hysteria patients (Freud, 1900; van der Kolk et al., 1996). He began focusing on repression of child sexual urges and impulses, termed Oedipus complex. In the Oedipus model, children repress their sexual fantasies for their mother and act aggressively toward their father in competing for their mother's affection. In this case, trauma no longer fit into Freud's psychoanalysis theory and became widely unrecognized as psychoanalysis popularized. Like many earlier theorists, Freud's model informed sexual trauma as responsibility and inadequacy of the child rather than their perpetrator (Cage, 2022).

Ferenczi (1988) was the first psychoanalytic theorist to recognize the adult and child relationship and its role in sexual trauma. He described parents who took advantage of their child's innocence, vulnerability, and need for affection for their own sexual gratification. Children were victims of interpersonal violence, not seekers of sexual encounters within their families (Ferenczi, 1988; van der Kolk et al., 1996). Ferenczi (1988) believed children instead had an innate need to be loved and cared for, which was exploited for personal gain. However, due to Ferenczi's controversial ideas, his work was not published until 17 years after his death (Masson, 1984; van der Kolk et al., 1996). The psychoanalytic community was not receptive to his theory, despite his innovative ideas. Therefore, Ferenczi became a fragment of history largely

ignored and underrecognized (Masson, 1984). Childhood trauma research continued to evolve and serve as an aid for current contemporary understanding of its impact.

Theoretical Explanations

Janet (1889) expanded upon childhood research and proposed that traumatic memories linger in the unconscious, unable to translate into the personal narrative. Dissociation occurred when frightening memories cannot be integrated into existing cognitive schemas and were split off into the unconscious without conscious control (van der Kolk et al., 1996). Therefore, when memories cannot fit within a person's narrative, they manifested as terrifying perceptions, obsessional preoccupations, and somatic reexperiences. Additionally, Janet (1911) believed individuals unable to integrate traumatic memories can also not integrate new experiences. The patients became attached to the trauma even if they have no prior recollection of the memory itself (van der Kolk et al., 1996). Past treatment focused on integrating those experiences into conscious awareness to increase personal and occupational functioning (van der Kolk & van der Hart, 1989; van der Kolk et al., 1996).

Other theorists in the early 19th century disagreed solely with the onset of the traumatic condition. Many believed it was a battle between vulnerability and predisposition (van der Kolk et al., 1996). During the aftermath of world disasters, Stierlin (1909) suggested trauma was a condition of vulnerability. He found some individuals held a genetic predisposition to developing trauma, as shown in their sleep disturbances and nightmares following the event. Additionally, he explained most individuals showed resilience, suggesting the trauma condition was not prevalent in larger society. Instead, developing traumatic disturbances were rare and atypical (Kraepelin, 1899; Stierlin, 1909; van der Kolk et al., 1996). Stierlin (1909) posed trauma was a personal failure as it only affected those vulnerable to the condition. He held the view that people

with this predisposition would have developed the condition naturally, and it was only a matter of time before symptoms presented. Historical ideas of trauma manifestation had a significant impact on how trauma was pathologized and recognized in child populations.

Developmental Trauma

Piaget (197) pioneered child developmental research and paved the way for other theorists to create new ideas on child pathological development (Miller, 2002; van der Kolk, 1987). Piaget believed in the idea of assimilation and accommodation through our existing schemata or mental structures. Children operate under cognitive operations to incorporate new experiences into their memory and adjust their preexisting beliefs (van der Kolk, 1987). A healthy child will learn new experiences and progress through four stages of healthy development: sensorimotor, preoperational, concrete operational, and formal operational (Piaget, 1970; van der Kolk, 1987). The task for each stage is for a child to adjust their mental frameworks to take in new information about their perceived world (Piaget, 1970). Therefore, assimilation occurs when a child can fit new experiences into existing schemas, whereas accommodation works to transform and adjust these experiences to their reality.

Piaget's (1970) theory of development created a framework for healthy versus abnormal development for children with traumatic experiences (van der Kolk, 1987). Researchers noticed children had an inability to assimilate new experiences and were hyper-focused on their traumatic experiences (van der Kolk, 1987). In this study, it was clear everything in their world was organized around their trauma, making it difficult to access cognitive skills because of perceived threats and lack of safety. For example, children can hold negative, unrealistic, and rigid beliefs about themselves or the world around them (König et al., 2021). They may believe

if bad things happen to bad people, then those people must be bad. Negative beliefs can impact both thought patterns and ability to access necessary cognitive skills.

Cognition. Traumatized children can have other cognitive deficits, including difficulty accessing concepts of time, verbal recollections, elaborations, and translations (Terr, 1983; van der Kolk, 1987). Most became withdrawn, emotionless, and hypervigilant by compulsively scanning their environment for threats (Bowlby, 1973; Terr, 1983). Furthermore, a child's hyperarousal and central nervous system overactivation make it difficult to access essential cognitive mechanisms. These processes overtake normal cognitive functioning, challenging the ability to access critical components of memory and attention (Terr, 1983).

van der Kolk (1987) began studying abused children and the reproduction of their stories to understand their cognitive processes. Researchers developed a child version of the Thematic Appreciation Test (Murray, 1943). The Thematic Appreciation Test, originally developed by Henry Murray, was replicated to understand an abused child's experience and how they perceived images shown (van der Kolk, 1987). The stories told were deeply unsettling, centering around themes of violence, malice, or ill intent. Children would often use their current worldview to interpret abstract pictures as harmful, showing their hyperfocus on negative and their need for protective mechanisms.

Storytelling. The studied children told stories of physical abuse inflicted by children, loss, and suffering (van der Kolk, 2014). Furthermore, they showed an inability to create positive, happy interpretations or to see their way out of a horrible situation. Instead, intense feelings of danger, aggression, and terror were often produced by seemingly innocent images (van der Kolk, 2014). When viewing an image of a family, the children sometimes see themselves and their family in the picture and interpret each person's actions or intentions

through their lived experiences. They struggled to go beyond seeing themselves as outside the center of their universe, making it difficult to shift sets, role-play, and anticipate solutions (van der Kolk, 2014). Importantly, children's avoidance of uncertainty and unpredictability impacted how they saw themselves in the future and their ability to plan (van der Kolk, 1987). The studied children were inflexible and unable to organize perceptual and visual information. They often operated in survival mode, making their cognitive processing secondary to their traumatic experiences.

Additionally, Pynoos et al. (1999) viewed childhood trauma as impacting intrinsic factors and maturation. Researchers proposed traumatic stress plays an intricate role in a child's developing temperament, adjustment, attachment, and resilience. A child's appraisal or response to danger can affect their emotional responsiveness, sense of internal threat, and physiological reaction (Pynoos et al., 1997, 1999). Children who always anticipate danger or adverse outcomes often react with heightened emotional and physiological responses, making other cognitive mechanisms unavailable (van der Kolk, 1987, 2014). Additionally, they struggled to discriminate between threatening and nonthreatening stimuli, perceiving them as threats. Trauma, reminders, and secondary stressors increase their ability to respond appropriately to their environment (Pynoos et al., 1997, 1999). A child's learned protective mechanisms can also profoundly affect developmental tasks, causing a significant delay. For example, young children who develop a startle response can only inhibit or unlearn this impulse at 8 years (Pynoos et al., 1999). The need for survival can override developmental tasks, leading to persistent delays in memory, learning, and emotional development (van der Kolk, 1987).

Memory. Memory is also significantly impacted for those with traumatic experiences (Terr, 1983). Memory encoding can explain how trauma impacts the memory system, and how

some details are more vivid and others are forgotten. Repetitive stress and hippocampal neuronal atrophy impair encoding of memories into the explicit memory system (McEwen, 2008; Siegel, 2012). These memories are responsible for past event details, such as trauma, in which a child may recall implicit or unconscious details (Clarke & Butler, 2008; Siegel, 2012). For example, these details may include remembering fragments of feelings, smells, sounds, or other perceptual experiences during the traumatic event. Memories can also include other intrusive symptoms, such as behavioral impulses, emotional reactions, bodily sensations, and invasive memories (Amir et al., 2010; Siegel, 2012).

Traumatic memories focus on the emotional intensity of the experience and are highly impacted by the emotion itself (Sheldon & Donahue, 2017). High emotional arousal may determine memory encoding and recall, making it more difficult to remember a traumatic event in greater detail if a child is afraid or distressed. Therefore, children may develop an overgeneralized memory, focusing primarily on negative details at recall (Lalla & Sheldon, 2021). An overgeneralized memory may also be a learned protective factor in attachment relationships, as it aims to control and hyper-focus on the negative (Bryant & Bali, 2017).

Siegel (2012) proposed the accuracy of traumatic memories is also impacted, as young children can be highly suggestible. His primary concerns included delayed recall and memory sensitivity in social interactions. Additionally, various factors can increase suggestibility states, such as drugs, hypnosis, and repeated interrogation questioning (Siegel, 2012). Similarly, social pressures can increase both nonexperienced recollections and repressed memory (Siegel, 2012). As a result, details of the event become fragmented, and avoidance of memories increases. Therefore, children may keep traumatic experiences hidden when their expectations are not to be believed. Children who avoid or hide their trauma often struggled to understand and interpret

their experiences (Fivush, 1998). Researchers proposed this can lead to inaccurate disclosure and an inability to integrate emotional experiences.

Similarly, Ehlers et al. (2003) posed a three-factor model that maintains posttraumatic cognitive disruptions in children. They argued memory is the most important cognitive factor: how a child encodes their traumatic experience into autobiographical information. These fragments or incomplete pieces can impact tendency to avoid, suppress, or ruminate on their thought processes, which maintained their trauma symptoms (Siegel, 2012). Children are more likely to create excessive negative appraisals about the event or trauma-related cues, which increased dysfunctional behaviors and feed into a need to control through cognitive strategies (Ehlers et al., 2003). Negative appraisals often included overgeneralizing danger, global negative thoughts about the self, and a preoccupation with unfairness and self-blame (Ehlers et al., 2003; Foa et al., 1999). Ehlers et al. (2003) found children would ruminate, suppress intrusive memories, and persistently dissociate when using negative appraisals. The strongest predictor was rumination, where a child would focus on how the trauma could have been prevented or what their role was in why the trauma happened. Furthermore, these thoughts often led to negative beliefs about the self and perception of others.

Cognitive Vulnerability. Cognitive vulnerability and resistance are also critical cognitive mechanisms impacting a child's adjustment. Pynoos et al. (1999) posed resistance and vulnerability mediate and moderate the relationship between a child's declining adjustment and impact of trauma. They explained resistance to trauma contributes to persistence of negative attributes, such as problematic, disruptive behaviors in CD. As a result, a child may avoid reminders and trauma-related cues, which only sustain their traumatic experience and responses. Additionally, researchers found other factors, such as temperament, anxiety sensitivity,

psychopathology, and parental responsiveness, related to an increase in a child's vulnerability to the impact of trauma.

According to Pynoos et al. (1999), familial, social ecologies, and intrinsic factors can protect essential childhood development and foundational resiliency to trauma. Appropriate adjustment can impact a child's proximal development in self-efficacy, self-view and others' view, peer relations, emotion regulation, and moral development (Pynoos et al., 1999; van der Kolk et al., 1996). Therefore, children who show resilience and do not develop alternative psychopathology tend to have a positive relationship with a trusted adult, use constructive coping strategies, and demonstrate higher cognitive processing in problem-solving and motivation (Masten et al., 1990; Pynoos et al., 1999).

Attachment Theory

John Bowlby began researching effects of parental separation on child distress in the 1940s after his service in World War II (van der Kolk, 2014). He noticed children separated from their parents exhibited great suffering, even temporarily, during an overnight stay at the hospital. During this time, other researchers, including Spitz (1945), began studying children and effects of maternal separation. He found orphan children experience a high mortality rate due to social isolation. These children had their basic needs met, but it was not enough to determine their ability to thrive (Lahousen et al., 2019). Thus, they became labeled as failure-to-thrive children, where social conditions of the orphanage led to their decline. Attachment theory was also supported by Konrad Lorenz and Harry Harlow in their animal experiments on the mother-child bond (Harlow, 1958; Lahousen et al., 2019; Lorenz, 1931). As a result, Bowlby (1973) began his work on attachment theory to understand a child's social nature, needs, and attunement to their parents.

Healthy attachment typically develops when children can predict their caregivers' actions, behaviors, and intentions (Siegel, 2013). Children develop a schema, or model, for thinking, feeling, and behaving that informs their connections with others, such as friends, teachers, and romantic partners (Siegel, 2013). Therefore, how children are cared for by their primary caregiver can inform how they care for themselves and others in the future (van der Kolk, 2014). Due to familiarity and comfort, children may be more drawn to friends who resemble their attachment figures (Siegel, 2013). As a result, this seeking is often done unintentionally and outside of their awareness. A child's intimate relationship with their primary caregiver can also predict healthy adjustment and security (Pynoos et al., 1999; van der Kolk, 2014).

Siegel (2013) described attachment as a need for children to be seen, safe, soothed, and secure. When infants cry, they aim to meet their needs, and a caregiver's attunement to the child will inform how they self-soothe their inner distress. A child's need to feel seen and protected impacts how they respond to stress and their ability to seek comfort from others. Feeling safe means the child can anticipate their caregiver's actions, seek comfort from them, and venture into the external world. Furthermore, children with secure attachments can often express and communicate their needs when connecting with others.

However, when a secure attachment is not formed through caregiver neglect or traumatic experiences, this can have significant effects on the child's relationships and how they engage with their environment (van der Kolk, 2014). Children not seen or soothed can develop avoidant, ambivalent, or disorganized attachment styles (Siegel, 2013). Ainsworth (1978) built on Bowlby's (1973) attachment theory by conducting the Strange Situation Study. In her experiment, children exhibited a secure, anxious, or avoidant attachment to their primary

caregiver. Anxious children were most distressed when their mother would leave the room, and after returning. Therefore, they appeared clingy because of their uncertainty and fear of abandonment. As a result, these children could not anticipate their caregiver's next course of action, as their behavior was often inconsistent and unpredictable. When a child's needs were unmet or caregiver attunement was not achieved, they became distressed and unable to self-soothe (Ainsworth, 1978). Anxious attachment can also occur when a caregiver displayed their own anxieties and fears, leading the child to internalize those feelings (van der Kolk, 2014).

On the other hand, avoidant children appear more detached from their mothers and do not seek comfort or safety from them (Ainsworth, 1978). This style can be protective and adaptive to a child's survival, especially when their needs go unmet (Siegel, 2013). When a child recognizes their parent as inconsistent, they begin to develop expectations and survival mechanisms to fulfill their perceived sense of security (van der Kolk, 2014). Avoidant children can also minimize their attachment needs and have difficulty recognizing benefits of social relationships (Siegel, 2013). As a result, they may view comfort and connection as dangerous or uncomfortable as these experiences never met their needs in the past. Avoidant children often have difficulties in interpersonal relationships, with seeking support, and are often isolated from the social world (Siegel, 2013).

A more complex child attachment style is characterized as disorganized, or fright without a solution (van der Kolk, 2014). Children with disorganized attachment were often unable to regulate their mood and emotional responses, displaying distress upon removal, avoidance, and then comfort-seeking upon return (Ainsworth, 1978). Oftentimes, these were general responses to caregivers who were neglectful, emotionally unavailable, and inconsistent (van der Kolk, 2014). Children operate under mechanisms of fight, flight, or freeze, and then, when afraid, seek

protection from their attachment figure (Siegel, 2013). Therefore, this ambivalence caused a child to approach and withdraw from their attachment figures as a learned survival behavior. Mothers may not intentionally instill these fears and survival responses (van der Kolk, 2014). They may be preoccupied with their own experiences of trauma, emotional instability, and uncertainty, and are unable to attune to or meet the needs of their children. Thus, children learned to conceal or avoid seeking comfort and protection from their primary caregiver.

Attachment Trauma

Attachment trauma produces an overwhelming, unbearable emotional state where a child has little safety, security, or support (Allen, 2013; Lahousen et al., 2019). A damaged attachment can result from multiple forms of trauma, ranging from child sexual abuse, neglect, and physical assault (Lahousen et al., 2019). Children with trauma may demonstrate a disorganized, anxious, or avoidant attachment style (van der Kolk, 2014). Their greatest impact is the development of an autonomous, secure self and inability to form meaningful connections (Lahousen et al., 2019). Traumatized children also struggle to regulate emotions and cope with life stressors (Siegel, 2013). They are more likely to avoid thoughts and feelings associated with the trauma, reinforcing and maintaining their dysfunctional symptoms (American Psychological Association, 2017).

The more children emotionally suppress their needs and feelings, the more they act out in aggressive, self-destructive ways (van der Kolk, 2014). Furthermore, when defensive or fearful behavior is no longer protective, children act angry or aggressive, learning to cover their fear with a tough demeanor (Lahousen et al., 2019). For children, the consequence of trauma then becomes long medical records with diagnostic labels, such as CD, ODD, bipolar disorder, and

ADHD (van der Kolk, 2014). Trauma also has lasting effects on a child's self-esteem, impulsivity, anger threshold, and recurrent suicidal behaviors (Lahousen et al., 2019).

Children who have experienced trauma show a greater sensitivity to their caregiver's facial expressions, body language, tone of voice, and physiological responses (van der Kolk, 2014). As a result, they were more likely to attune to and adjust to their caregiver's emotional needs. Children often had difficulty forming and understanding their own emotional experiences (Fivush, 1998). As trauma experiences increased, their ability to mentalize decreased (Huang et al., 2020). Furthermore, an increased focus on perceived affect and expression of others overrode their internalized mental representation of emotion.

Pollak et al. (2000) found abused children were sensitive to voice tone and emotional expression changes, and they responded to negativity with hyper-focus and emotional reactivity. The children became increasingly aware and hypervigilant of perceived emotional shifts. They also prioritized others' emotions and adjusted their experiences accordingly. This led to a dependency on emotional needs of others and an increased focus on emotional shifts.

Trauma also shaped how the child engages in relationships through caregiver attachments (Siegel, 2013). Children with a disorganized attachment style fluctuate in seeking and distancing from the caregiver to resolve their perceived lack of safety (Lahousen et al., 2019). This conflict is referred to as the dualistic monad, in which a child intentionally distances and unconsciously seeks closeness in their attachment relationships (Meares, 1997). Children may also become inhibited in their interactions and focus on the threat or others as potential perpetrators (Lahousen et al., 2019). As a result, their need for security and safety overrides their ability to empathize or identify with others' emotional states. Therefore, children tend to be more focused on the world around them as a potential for harm, limiting their ability to access essential

emotional skills. Instead, they are often hypervigilant, on high alert, and expecting danger from strangers and other community members (Lahousen et al., 2019).

Attachment trauma can also impact future relationships in adolescent and adult relationships (Munkvold et al., 2011). Children often exhibit symptoms characterized by disturbances of self-organization, as seen in those diagnosed with complex posttraumatic stress disorder (C-PTSD; Karatzias et al., 2021). Trauma may intensify attachment anxiety and avoidance with an inability to form or trust others in close relationships (Karatzias et al., 2021; Mills & Turnball, 2004). These anxiety symptoms function to protect from rejection, closeness, and intimacy, making it difficult for a child to form healthy bonds with others (Karatzias et al., 2021; Mikulincer et al., 2006). Mikulincer and Shaver (2016) found hypervigilance and attachment anxiety to be connected with increased focus on fear responses, rumination, and traumatic stress. An insecure attachment style, both anxious and avoidant, predicted higher levels of posttraumatic stress symptoms (Barazzone et al., 2019). Additionally, Karatzias et al. (2021) found avoidance as a predictor of PTSD in disturbances of self-organization symptoms. Therefore, adults who experienced trauma were more likely to avoid close interpersonal relationships, feeling disconnected and distrusting of those around them. This avoidance resulted in struggles with intimacy, closeness, and expressing emotional needs.

Other research by Maercker et al. (2021) and Lim et al. (2019) contradicted previous findings and suggested attachment anxiety was the most significant predictor for those who had experienced trauma. Maercker et al. found attachment anxiety was not only linked to trauma but also to other important socio-interpersonal factors. The sample reported higher levels of physical, sexual, and emotional abuse or neglect. They were also significantly impacted by trauma disclosure, social acknowledgment, support, and overall life satisfaction. Children in this study

often had limited social support, were not accepted, and, as a result, inappropriately told their stories across various contexts. These findings led to a stronger need to seek support from others in unsuitable circumstances. Lim et al. (2019) also found similar results, where attachment anxiety predicted a negative view of self-worth, preoccupation with reassurance, and fears of abandonment. As a result, anxiety was seen as a more protective adaptation in resolving the trauma, seeking support, and reassurance. Whereas avoidance functioned to push people further away and reduce social support, increasing stress-related symptoms. Across various studies, it is still unclear whether avoidance or anxiety attachments were more predictive of trauma symptoms (Karatzias et al., 2021; Lim et al., 2019). However, it is clear trauma can impact attachment style and how the child engages with their environment (Siegel, 2013).

Socio-Emotional and Behavior

In combination with relational issues, trauma may also significantly impact emotional development in affect regulation and social construction of the self (Cole & Putnam, 1992; Streeck-Fischer & van der Kolk, 2000). A sense of self is the organizational development of experiences into constructs of individuality, unity, and continuity (Cicchetti & Beeghly, 1990; Cole & Putnam, 1992). Children who have experienced trauma can develop a negative mental representation of themselves and others (Hildyard & Wolfe, 2002). Their negative self-concept is often linked with their neglectful reality, in which minimal attention was paid to their emotional needs (Aber & Cicchetti, 1984; Hildyard & Wolfe, 2002; Toth et al., 1997). They often represented themselves as angry or opposing others, which can be observed behaviorally as well (Hildyard & Wolfe, 2002; Waldinger et al., 2001).

During early stages, children begin to identify objects, represent others, develop an autonomous awareness, and a moral compass (Cole & Putnam, 1992). These experiences are

largely determined by their relationships with and attachment to their caregivers (Siegel, 2013). At toddlerhood, they can begin to understand their behavior as instrumental to development of a separate, autonomous self (Cole & Putnam, 1992). Children with traumatic experiences or insecure attachment, therefore, often lack a continuous and predictable sense of self (Streeck-Fischer & van der Kolk, 2000). Therefore, a lack of continuity from attachment figures can make it difficult to understand who they are and who other people are to them. As a result, children may be more out of touch with their feelings and internal state, often ascribing their own feelings to others' perceived attitudes and beliefs about the child. Children may struggle to develop an internal map for managing difficult and problematic emotional experiences (Streeck-Fischer & van der Kolk, 2000). Traumatized children tend to experience more negative emotions or display a rigid, situationally inappropriate affect (Cicchetti & White, 1990; Shields & Cicchetti, 1998). Their diminished self-awareness and difficulty recovering from emotional episodes can also lead to future dysfunctional peer relationships (Charuvastra & Cloitre, 2008; Shields & Cicchetti 1997).

During school age, children with a negative self-concept begin to have difficulties managing conflictual, emotion-provoking interactions with peers (Cole & Putnam, 1992). They may struggle to build friendships due to their social withdrawal and persistent negative affect, but they may also show difficulty in being cooperative and sensitive to their peers in interpersonal interactions (Cole & Putnam, 1992; Streeck-Fischer & van der Kolk, 2000). These children can have fewer friends and generally avoid and withdraw from social interactions (Charuvastra & Cloitre, 2008; Nadeau et al., 2013). They can display poor social adaptation and struggle to initiate interactions with their peers and other adults (Charuvastra & Cloitre, 2008; Hildyard & Wolfe, 2002). They are also more prone to engaging in bullying behavior, partly

because of aggression modeled by their parents (Aber & Cicchetti, 1984; Streeck-Fischer & van der Kolk, 2000). Therefore, they can prefer more familiar counter aggression from their parents, in which they respond aggressively in conflicts with their peers (Aber & Cicchetti, 1984; Bousha & Twentyman, 1984). Children also tend to be confused by others' emotional displays, showing an inability to discriminate among emotional experiences, which can lead to future conflicts with others (Hildyard & Wolfe, 2002; Pollak et al., 2000).

A child's impulse and affective control then become an important component of their behavioral regulation (Streeck-Fischer & van der Kolk, 2000). As a result, children with poor self-concept or internal regulation overall can show more aggression toward themselves or others. They may express their wishes by acting out, taking what they want rather than asking for what they need in their communication (Streeck-Fischer & van der Kolk, 2000). Martin and Beezley (2008) proposed nine characteristics of emotional and behavioral presentations in maltreated children. Researchers explained maltreated children were unable to express enjoyment, displayed low self-esteem, more behavioral symptoms, withdrawal, oppositional behavior, hypervigilance, compulsivity, pseudoadult behaviors, and school learning problems. In this study, the children's overall aggression, anger, and preoccupation with an adult's emotional needs were incredibly high.

The presence of self-destructive behaviors in adolescence was also another important factor in emotional impulse control (Streeck-Fischer & van der Kolk, 2000). As previously supported by Green (1978), traumatized children and adolescents were three times more likely to abuse drugs, engage in self-mutilating, and other violent/aggressive behaviors toward others. Other behaviors in childhood often included tics, tantrums, stealing, accidents, somatic complaints, and clinginess (Hildyard & Wolfe, 2002). As a result, neglected children were often

characterized by being violent, aggressive, resistant, angry, and full of hatred (Aber & Cicchetti, 1984). Additionally, many of these behavioral symptoms were found to overlap with posttraumatic symptoms in children (van der Kolk, 2014).

PTSD in Children and Cooccurring Disorders

Abram Kardiner was a pioneer in the development of PTSD, later recognized as PTSD in 1980 (van der Kolk et al., 1996). He defined psychosomatic symptomatology in war veterans as vigilance for and sensitivity to environmental threats, atypical dream life, chronic irritability, startle reactions, and explosive aggression (Kardiner, 1941; van der Kolk et al., 1996). Trauma symptoms, such as dissociative fugues, were adaptive in protecting from remembering horrific details and provided future protection from similar occurrences (van der Kolk et al., 1996). PTSD became widely recognized in *Diagnostic Statistical Manual of Mental Disorders* (DSM-III; APA, 1980; van der Kolk et al., 1996). In 1974, rape trauma syndrome became recognized, leading to research on battered women, family violence, and childhood sexual abuse (Kempe & Kempe, 1978; van der Kolk et al., 1996). Herman (1981) was the first to recognize sexual abuse of children for its negative effects on their psyche and development. This innovative research led to rape, incest, and physical violence being recognized under diagnostic criteria for PTSD (van der Kolk et al., 1996).

Since introduction of DSM-III, there has been significant research and debate on diagnostic criteria of PTSD and whether it is appropriate for children (Hafstad et al., 2014). The *Diagnostic and Statistical Manual of Mental Disorders, Third Edition-Revised* (DSM-III-R; APA, 1987) included consideration for PTSD in children (Cohen & Scheeringa, 2009). However, it is still infrequently used as a diagnostic explanation for traumatic reactions due to children not meeting full criteria or lacking psychological testing resources (Cohen & Scheeringa, 2009).

Additionally, PTSD symptoms in children tend to overlap with other psychological disorders, such as ODD, ADHD, major depressive disorder, and separation anxiety disorder (Lokkegaard et al., 2017; Scheeringa & Zeanah, 2008). Lokkegaard et al. (2017) found 45.9% of their child sample met both criteria for ODD and PTSD, and 18.6% met criteria for ODD when not meeting full diagnostic requirements for PTSD.

The co-occurrence with ODD has been well established in research, underscoring the importance of understanding behavioral presentations and how they may relate to traumatic reactions (van der Kolk et al., 2009). An exploration into the appropriate diagnosis and potential to include a new trauma category should be evaluated. According to van der Kolk et al. (2009), developmental trauma disorder could document effects of interpersonal trauma and disruption of caregiving systems on affect regulation, attention, cognition, perception, and interpersonal relationships. However, more research is needed to understand how traumatic reactions may present differently in children through behavioral and emotional presentations. The current study sought to expand upon present research to understand trauma and its manifestations.

Oppositional Defiance and Trauma

Seventy percent of all children will experience a traumatic event by age 16, with 15% meeting diagnostic criteria for PTSD in childhood (Substance Abuse and Mental Health Services Administration [SAMHSA], 2024). Trauma exposure in young children has shown links to ODD (Ford et al., 2000). According to DSM-5, symptoms of an angry, irritable mood, defiant, argumentative behavior, and vindictiveness are not criteria for CD and antisocial personality disorder (APD; APA, 2013). However, considerable overlap exists in current research on ODD, CD, and APD, combined to understand etiology and presentation (Moffitt et al., 2008). It should be noted APD is only diagnosed in individuals over 18, and most children with ODD do not

develop its future pathology (APA, 2013; Neal, 2003). Therefore, it is important to avoid lumping research on ODD with CD and APD, as they show significant diagnostic differences (Moffitt et al., 2008).

ODD was not formally recognized as a separate disorder until DSM-III (APA, 1980). Before, symptoms were grouped as disruptive behavior disorders, typically seen in presentations of delinquent boys (Ghosh et al., 2017). At the time, the DSM-II (APA, 1972) lacked diagnostic criteria, and reliability of its diagnoses was questionable (Ghosh et al., 2017). Furthermore, another problem is disruptive behavior disorders were categorically grouped in research, leading to further misunderstanding in their unique presentations. Current research on ODD symptomatology has been continuously evolving (Ghosh et al., 2017). Another challenge with current research was underutilization of children and adolescent samples, making it harder to understand the full diagnostic picture of child mental pathology (Tzouvara et al., 2023).

However, with current data, researchers have found one adverse life event has significant effects on behavioral problems, substance abuse, and mental health diagnoses in adolescents (Bomysoad & Francis, 2020). According to Felitti et al. (1998), trauma exposure can also lead to negative health outcomes, including heart disease, diabetes, and premature death. Individuals with more than six adverse events were at greater risk of shortened life expectancy than those without (Brown et al., 2009; Frawley et al., 2023).

Furthermore, co-occurrence of ODD and trauma can have drastic impacts on the family, peer relationships, and academic achievement (Ford et al., 2000). ODD has been associated with various negative outcomes, including poor academic success, social functioning, interpersonal challenges, mental illness, and physical health (Carliner et al., 2017). Those with increased irritability were more likely to internalize symptoms (e.g., anxiety), and those who externalized

defiance and argumentative symptoms were most likely to experience substance use disorders (Mikolajewski et al., 2021).

Three to four percent of the population is diagnosed with ODD, with differences across various populations and geographical regions (APA, 2013; Lin et al., 2022). Ford et al. (1999) explained 10% of children are diagnosed with disruptive behavior disorders, including ODD and ADHD. Of the 90% with ODD, children often are emotionally disturbed (Ford et al., 2000). ODD is more prevalent among males before adolescence, decreasing symptom intensity after this developmental period (Lin et al., 2022; Nobakht et al., 2023).

ODD heritability may have a genetic link but is more commonly associated with adverse environmental experiences (Boden et al., 2010). Adversity increases vulnerability and susceptibility to development of ODD (Jendreizik et al., 2022). The most impactful events included maternal prenatal health, such as smoking during pregnancy, low socioeconomic status, family instability, parental maladaptive behavior, and physical/sexual abuse (Boden et al., 2010). Parents who were more likely to drink, abuse substances, and engage in criminal acts were more likely to create unsafe environments where children feel unsafe and may act out behaviorally (Boden et al., 2010). Additionally, poor parental emotional regulation and harsh punishment were associated with increased externalizing symptoms present in ODD (Lin et al., 2019). Furthermore, children often could not express their emotional needs, increasing their reliance on meeting those needs in more aggressive, domineering ways.

Traumatic events have also been shown to alter behavior, personality, anatomy, emotions, and physiological responses (Ford, 2002). Kaduson et al. (2020) described aggressive and disruptive behaviors as a child's way of communicating emotional and relational wounds. Children may often lack language to communicate such complex matters. They may also

experience poor physiological regulation, which can make it challenging to manage their emotions and behaviors (Paulus et al., 2021). Children often respond to perceived threats, fear, or helplessness with disorganized and agitated behavior (APA, 1994; Ford, 2002). According to Porges (2022), they develop faulty neuroception, where their system is overactivated in anticipation of danger. Therefore, may perceive most situations as dangerous and react behaviorally to survive (Delahooke, 2016). As a result, there is a misunderstanding about whether, behaviorally, ODD symptoms are presented as responses to a child's traumatic and chaotic environment.

In children with ODD, traumatic victimization, including physical and sexual maltreatment, has been shown to predict symptoms of oppositionality (Ford et al., 2000). Of the sample, 48%–73% of subjects experienced physical abuse, and an 18%–31% incidence of sexual abuse. Trauma was associated with higher hyperarousal symptoms, explaining disruptive behaviors following a traumatic event. Similarly, Price et al. (2013) found interpersonal trauma to be associated with higher externalizing symptoms of oppositionality and impulsivity.

According to Surette (2002), children with ODD and trauma history experienced physiological arousal symptoms differently than the general population. The sample experiencing flashbacks had higher cortisol levels responsible for regulating responses to stress. Additionally, they showed lower cortisol levels when experiencing dissociative and numbing symptoms. These responses suggested a deficiency in regulating stress hormones accounting for physiological responses to perceived threats and stressors.

Similarly, Mikolajewski and Scheeringa (2021) measured heart rate and respiratory sinus arrhythmia in those with ODD and a history of trauma to examine their baseline differences. Interpersonal trauma significantly predicted irritability and defiance/vindictiveness in men and

irritability in women. However, when controlling for increased respiratory sinus arrhythmia, individuals with interpersonal trauma and ODD showed significant defiance/vindictiveness symptoms. These results explain the physiological impact of internal experience of threats and how they may manifest externally as disruptive behaviors.

Other cognitive processes, including memory, may also be affected by trauma. Children with ODD and trauma show a deficit in memory recall, especially of trauma-related events, which may impact a child's understanding of their behavioral responses to trauma (Surrette, 2002; van der Kolk & Fisler, 1995). van der Kolk and Fisler (1995) found children may also lack skill and maturity to link their behaviors to traumatic experiences. In addition, the memory system may be impaired by decreased hippocampal volume and damage, impacting ability to preserve and recall essential memories (Surrette, 2002). Therefore, children who do not understand their trauma histories may act out by exhibiting externalizing behaviors without understanding their true cause. As a result, these can lead to more difficulties for parents, teachers, and clinicians to understand a child's experience if they do not remember their own trauma experiences.

Evidence-based psychological treatment can help to improve social, emotional, and behavioral outcomes (Hudson et al., 2023). However, children use services to treat psychiatric conditions at a lower rate due to factors such as gender, age, parental educational level, family structure, health insurance, and ethnic minority status (Merikangas et al., 2011). As a result, they may primarily rely on school-based services that focus on questions such as "What is wrong with you?" and "Why do you behave this way?" (Perry & Winfrey, 2022). School services may also use interventions that are not evidence-based, creating a gap in literature around alternative

service utilization (Hudson et al., 2023; Laurens et al., 2021). A limited focus may miss important signs of a child surviving in an unsafe environment (Hudson et al., 2023).

According to Merikangas et al. (2011), children who met diagnostic criteria for a disruptive behavior disorder did not receive consistent mental health care, leading to future negative outcomes. Merikangas et al.'s study found, for many youth, some never received treatment for their psychiatric conditions, whether they met full criteria or not. These results suggest, for most children, their psychiatric concerns are primarily treated and addressed in the school setting, which may not apply appropriate treatment. It also indicates service utilization is low due to various factors that prevent children from accessing care they need.

Instead, if programs introduced evidence-based treatment and evaluated for alternative explanations such as traumatic or adverse conditions, they may shift their focus in a more productive way. Children are observational and learn social relationship patterns through their environment (Frawley et al., 2023). Thus, one must make significant changes to environment, or for most, the school setting, to make significant changes in their lives.

The Present Study

Many researchers have proposed individuals with ODD are more susceptible to traumatic and adverse experiences (Ford et al., 1999). However, researchers have difficulty identifying which event came first in their conclusions: the ODD diagnosis or trauma. Therefore, identifying a causal link and direction can be challenging, and more research is needed to examine the relationship between trauma and ODD (Ford et al., 1999). Some research has recognized ODD symptoms as occurring before the trauma and a higher risk for exposure to traumatic events (Carliner et al., 2017; Mikolajewski & Scheeringa, 2021).

Mikolajewski and Scheeringa (2021) found an association between trauma types, including interpersonal and noninterpersonal trauma, and an ODD diagnosis prior to the traumatic event. In this study, a large percentage of children exhibited ODD symptoms before their traumatic event, pointing to a vulnerability in exposure to trauma. Those children with ODD may exhibit specific behaviors and symptoms, making them more susceptible to adversity.

Lastly, Carliner et al. (2017) identified children with ODD were at a higher risk for later exposure to interpersonal violence, other/nondisclosed events, and network/witnessing events. These results can be explained by abnormal threat detection, including salience processing, social information processing, heightened emotional responses, and discrimination between threat and safety cues. Additionally, peer influence, substance use, and legal problems may mediate the relationship between higher exposure to traumatic events and an ODD diagnosis (Carliner et al., 2017).

Current research needs to expand on understanding of trauma-related symptoms and their connection to disruptive behaviors. Currently, externalizing symptoms, including aggression, irritation, defiance, and vindictiveness, are pathologized and not understood as survival mechanisms. van der Kolk (2014) explained oppositionality as a desperate attempt for survival. However, the focus of treatment is on behavior and prevention of disruption while ignoring environmental factors and impact of trauma. The current study aimed to demonstrate trauma exposure as a risk factor for developing ODD in childhood. The study examined how physical and sexual trauma impacts symptom severity of those diagnosed with ODD. Finally, this study continued research to understand the relationship between traumatic experiences on those diagnosed with ODD.

Study Purpose

If the field of psychology can better understand ODD, it may aid in treating and supporting those experiencing behavioral disruptions. Treatment, prevention, and support resources are at the foreword of essential research in the child psychopathology field. One must understand contributing factors exacerbating symptoms of ODD and become more aware of environment without a focus on diagnosis. These results may provide insight into effects of trauma and other life experiences on diagnostic considerations for disruptive childhood disorders.

Chapter 2

Study Design and Methodology

The design of this study was a cross-sectional survey with data collected from participants across the United States via the Internet. Participants were recruited through convenience and snowball sampling from various social media outlets, including Facebook support groups and survey websites. Participants were also recruited using Prolific, an online crowdsourcing platform designed for academic research. The researcher used a snowball sampling method, asking participants to share survey link or a social media post with other prospective participants who may be interested. The research included quantitative methodology utilizing an ordinal logistic regression to explore the relationship between childhood trauma type (i.e., physical, sexual, both) and socioeconomic status (i.e., low, medium, high) on oppositional defiant disorder (ODD) symptom severity (i.e., none, mild, moderate, severe) from age 3–18 to support Hypotheses 1–4. The study also evaluated the interaction between childhood trauma type and socioeconomic status on ODD symptom severity to support Hypothesis 5. The research was collected and stored using the Qualtrics survey system.

Participants were evaluated using demographic questions and two measures: the Adverse Childhood Experiences-Questionnaire (ACES-Q) and adapted items derived from the Disruptive Behavior Rating Scale (DBRS). Additionally, after questionnaires, participants who met diagnostic criteria for ODD with 4 or more symptoms were asked about their ODD symptom severity (i.e., mild, moderate, severe), reporting on experiences from age 3–18. For those who do not meet ODD diagnostic criteria (0–3 symptoms), severity level was coded as none (criteria not met in any setting). The study was estimated to take participants 10–15 minutes to complete.

Research Question(s)/Hypotheses

This study aimed to understand if physical and/or sexual trauma was predictive of ODD symptomatology and the interaction between physical and sexual trauma on ODD symptom severity. Hypotheses were as follows:

- **Hypothesis 1:** Individuals with a history of childhood physical trauma by an adult 5 years older than the participant during age 3–18 will exhibit higher ODD symptom severity in childhood compared to those without trauma.
- **Hypothesis 2:** Individuals with a history of childhood sexual trauma by an adult 5 years older than the participant during age 3–18 will exhibit higher ODD symptom severity in childhood compared to those without trauma.
- **Hypothesis 3:** Individuals with a history of both childhood sexual and physical trauma by an adult 5 years older than the participant during age 3–18 will exhibit higher ODD symptom severity in childhood than those with a history of physical trauma.
- **Hypothesis 4:** Lower socioeconomic status in childhood will predict higher childhood ODD symptom severity compared to those with a higher socioeconomic status.
- **Hypothesis 5:** There will be a significant interaction between trauma type and socioeconomic status on ODD symptom severity in childhood, predicting higher ODD symptom severity with a lower socioeconomic status (SES) in childhood and the presence of childhood trauma by an adult 5 years older than the participant during ages 3–18.

Participants

The current study aimed to examine the population of individuals with a history of childhood physical and/or sexual trauma who experienced ODD symptoms during their school-aged years. Participants for this study were recruited via convenience and snowball sampling, targeting individuals aged 18–48 who grew up and could access mental health services in the United States from 12/17/2025 to 03/01/2026. A snowball sampling procedure was used to recruit potential participants, who were asked to share study link with others who may meet proposed criteria. Therefore, currently enrolled participants could identify other potential participants by sharing the survey link or social media post.

Participants were recruited through social media networks and websites, including Facebook groups and survey websites. Survey websites included, but may not be limited to, www.surveycircle.com and www.pollpool.com. The researcher posted to Facebook support groups, including moms with ODD children. This approach helped identify participants who were diagnosed with ODD during childhood. The researcher recruited mothers from Facebook support groups to share study with their adult children who may met ODD criteria in childhood (see Appendix A). The social media post briefly introduced study and included a link to Qualtrics survey, allowing participants to complete it (see Appendix B). The researcher also used Prolific to recruit participants because it helped find participants for a challenging-to-recruit population within time constraints for data collection. The researcher also had the ability to reach a wider population, which was more representative of the general population intended to be studied. Prolific posted an advertisement for the study including a title, a brief study description, an estimated time commitment, compensation, and inclusion criteria (see Appendix C).

Participants who met inclusion criteria and agreed to participate were directed to the Qualtrics survey link. Participants recruited via Prolific received \$0.20 to \$0.30 for their participation. Incentives to participate were modest, with compensation of \$0.20–\$0.30 to prevent coercion and undue influence. Prolific used survey completion codes to verify completion, which were available at the end of Qualtrics survey. The researcher did not have access to participant payments; Prolific handled them directly through the platform. The researcher loaded money into their account, from which Prolific was responsible for paying participants. Participants were informed of their compensation in the informed consent document (see Appendix D).

Participants were at least 18 years old and no older than 48. The age range selected came from timeline of formal diagnosis occurring in 1980, making participants born in 1977 the first to receive an ODD diagnosis. All participants who experienced childhood trauma-related events (physical and/or sexual) by an adult or person 5 years or older than the participant during the age of 3–18 were included in this study. Additionally, the researcher included those who did or did not report ODD symptoms. The intention was to understand further the effect of trauma on behavior, where an ODD diagnosis or met criteria is not required to participate. A sample size calculator was used to examine predictor variables, with a power of .80 and a medium effect size. A projected sample of 300 participants was selected to represent current population of interest.

Upon clicking survey link, participants were directed to the Qualtrics survey. Before accessing measures, participants consented to participate in study by acknowledging and selecting “I agree” at the beginning of survey. An informed consent document appeared on the

first page explaining study description, purpose, conditions, participant qualifications, protections, compensation, time commitment, and unforeseeable risks and benefits. Some participants may have experienced emotional distress due to sensitivity of information about experiences of traumatic events. Resources for counseling agencies, crisis lines, and institutional contact information were provided in the informed consent and at the end of survey. If emotional distress were to occur the participant had ability to discontinue study at any time.

The participant was informed study completion is required to receive compensation, thereby increasing incentive to participate. Participants were reminded their participation was voluntary and they could discontinue study at any time. Consequences for discontinuing could result in lost compensation but would not negatively impact the participant in any other way. In addition, the participant was informed their information would be kept anonymous. All websites and programs used for data collection did not store participant-identifying information and used anonymous participant IDs. Participant IDs could not be connected to personal identifiers. The informed consent explained collected results would only be used for learning purposes of the student in the dissertation, publication, conference dissemination, and/or psychological forums (informal and formal).

Once consent was accepted, the researcher collected demographic information regarding adult participants' age, gender, childhood location, race/ethnicity, education, and childhood socioeconomic status to identify differences among the sample (see Appendix E). The researcher used two other measures, the ACES-Q and adapted items derived from DBRS (see Appendix F and G). The researcher asked an ODD symptom severity question (i.e., mild, moderate, severe)

following questionnaires for those reporting four or more symptoms from age 3–18 (see Appendix H). Those who reported 0–3 ODD symptoms had their severity level coded as none.

Measures

Participants were measured on instruments to evaluate demographic characteristics, childhood trauma history, presence of ODD symptomatology, and symptom severity from ages 3–18. Severity was determined using DSM-5-TR diagnostic criteria, including mild, moderate, and severe ratings (American Psychological Association [APA], 2022). Six demographic questions were used to collect information about each participant, including age, gender, childhood location, race/ethnicity, education, and childhood socioeconomic status. Other measures, including the ACES-Q, items derived from DBRS, and Symptom Severity Question.

Demographic Questionnaire

Six demographic questions were used to collect information about each participant, including age, gender, childhood location, race/ethnicity, education, and childhood socioeconomic status at time of completion. The researcher used collected information to explore sample variability and differences among collected results.

ACES-Q

The ACES-Q was used to assess childhood trauma experiences across physical and sexual experiences. The measure is a 10-item questionnaire assessing exposure to household dysfunctions and psychological, sexual, and physical abuse before age 19. The subject was asked about two specific events in an either/or format and instructed to give a yes/no response if they experienced either event. Although the entire measure was administered to participants to maintain its psychometric properties, the current study evaluated responses to physical and sexual experiences (Questions 2 and 3) because these were research variables of interest. It also

aimed to minimize the potential risk of psychological harm by asking only minimum necessary information regarding current research. An example of a question included, “Did a parent or other adult in the household often push, grab, slap, or throw something at you? OR ever hit you so hard that you had marks or were injured?” Next, the respondent answered yes/no.

The ACE-Q was developed for the Kaiser Permanente study on abuse and household dysfunction as a predictor of adult deaths (Felitti et al., 1998). The ACE-Q was influenced by measures from the Conflicts Tactics Scale (Straus, 1979) and Wyatt Sex History Questionnaire (Wyatt et al., 1992) during composition (Felitti et al., 1998). Additionally, other questions were developed from the 1988 National Health Interview Survey and National Institute of Mental Health (Felitti et al., 1998). The ACE-Q shows a strong validity among various psychological dysfunctions, diseases, and diverse populations (Zarse et al., 2019). The measurement also has shown internal consistency (Cronbach’s $\alpha = .88$) among measures of ACEs and their outcomes (Murphy et al., 2014).

DBRS

Items adapted from the DBRS were used to assess symptoms and behaviors related to childhood ODD. The DBRS uses a 46-item inventory to assess symptoms of ODD, attention deficit hyperactivity disorder (ADHD), and conduct disorder (CD; Pelham et al., 1992). Each item is rated on a 4-point scale from 0–4, from “not at all” to “very much” (Pelham et al., 1992). Only items scored as “pretty much” and “very much” meet diagnostic symptom criteria. Final scores are calculated to assess for symptom severity, with a score of four or more as meeting diagnostic criteria (Pelham et al., 1992). For this study, only items from the questionnaire of an ODD diagnosis were used (Items 3, 13, 15, 17, 24, 26, 28, 39). This decision is based on both scoring guidance and alignment with DSM-5-TR ODD symptoms (APA, 2022; Pelham et al.,

1992). According to APA (2022), symptoms of ODD include the following: often loses temper, is touchy or easily annoyed, is angry or resentful, argues with authority figures or with adults, actively defies or refuses to comply with requests from authority figures or with rules, deliberately annoys others, blames others for their mistakes or misbehavior, and has been spiteful or vindictive.

Pelham et al. (1992) on the DBRS selected all ODD symptoms (Items 3, 13, 14, 15, 17, 24, 26, 28, 39), four CD symptoms (Items 4, 6, 11, and 40), and two symptoms from ADHD impulsivity (Items 1 and 10) to represent ODD factor rating. They found when spiteful/vindictive symptom was present, it positively predicted ODD diagnostic criteria (PPP = 0.98). Additionally, the blame others symptom negatively predicted ODD diagnosis (NPP = 0.91) and was not a good predictor for those who met diagnostic criteria. Symptoms such as arguing with adults and having a high temper had both negative and positive predictive value, suggesting they were useful for assessing presence or absence of ODD diagnostic criteria. Lastly, ADHD symptoms were not predictive of ODD (PPP = 0.50), indicating this measure should not be applied when specifically assessing for ADHD in ODD presentations. According to the current study, the DBRS scoring guidance includes items 3, 13, 15, 17, 24, 26, 28, and 39 to assess ODD.

The DBRS demonstrated sufficient criterion and construct validity for diagnoses targeted for measurement (Pelham et al., 1992; PsychTools, 2018). According to Pelham et al. (1992), the combination of symptoms in ADHD and ODD had significant predictive power. Additionally, the measure demonstrated internal consistency (coefficient alphas of .81, .95, and .95) of diagnostic criteria in the DSM-III for ODD, ADHD, and CD (Pelham et al., 1992; PsychTools, 2018). Additionally, the DBRS demonstrated internal consistency and convergent validity of both parent reports when compared with other measures, such as the Behavior Assessment

System for Children Parent Rating Scale and Infant Temperament Questionnaire, in preschool populations (Friedman-Weieneth et al., 2008).

The current study used an adapted version of DBRS rather than the full measure. The psychometric properties of the full measure were not applied to adapted version. Therefore, findings from this measure were interpreted for research purposes and not as diagnostic information. The adapted DBRS was not used to assign diagnoses to participants, and data derived from this measure were interpreted descriptively rather than diagnostically. This limitation, including reduced psychometric rigor inherent in using a modified version of the DBRS, is explicitly discussed in limitations and data analysis sections.

Symptom Severity Question

The Symptom Severity Question assessed severity level of those meeting DSM-5-TR diagnostic criteria for ODD from age 3–18 (APA, 2022). Severity was assessed based on whether a participant reported four or more ODD symptoms. The severity question was not asked of individuals reporting 0–3 ODD symptoms, and their severity level was coded as none. Participants meeting four or more ODD symptoms are suspected to meet criteria for an ODD diagnosis. However, the researcher did not evaluate collected results to justify diagnosis; instead, they reviewed the number of reported symptoms and severity level. Using severity criteria demonstrated in DSM-5-TR, those who reported symptoms occurring within one setting met a mild severity; participants received moderate severity if symptoms are present in two settings, and severe if they are present in three or more settings (APA, 2022).

Procedure

The participants for this study were recruited via convenience and snowball sampling methods, targeting individuals aged 18–48 who lived in the United States as children with access

to mental health services. Participants who met prescreening criteria of age 18–48 were located in the United States as a child and experienced a childhood physical or sexual trauma by an adult 5 years older than the participant during ages 3–18 were included in the current study. The researcher included those who do or do not report ODD symptoms. Participants were recruited through social media networks and survey platforms, including Facebook groups and survey websites, with a brief description of study and a link to participate. The researcher used Prolific to recruit participants to build a more representative sample of the population of interest, as traditional methods and time constraints may have limited recruitment. Prolific posted an advertisement of study, including title, brief study description, estimated time commitment, compensation, and inclusion criteria.

Participants who met inclusion criteria and agreed to participate were directed to the Qualtrics survey link. Prolific used the following procedures to protect data security. Prolific used encrypted HTTPS connections, secured by Transport Layer Security (TLS). Each participant was assigned a unique Participant ID (a 24-character alphanumeric identifier). This means their data were pseudonymized and only Prolific knew their identity. Prolific provided an anonymized internal messaging service, which allowed participants to message researchers (and vice versa) with any concerns via their pseudonymous Participant ID. The researcher could not access participants' identifiable information. Clear guidance was provided on what information researchers could not request. User data were stored within secure Google Cloud Platform servers located in Belgium. Passwords were hashed using industry-approved technologies. They were stored securely and could not be viewed by Prolific. Prolific did not store any data provided within studies. These were carried out on external survey software/platforms (i.e., Qualtrics). In accordance with GDPR requirements, participants were free to amend or remove their personal

data at any time, and personal data were deleted within a reasonable period after account closure as well (see <https://intercom-help.eu/prolific-research/en/articles/445118-data-protection-and-privacy> for more information).

Data collection and survey administration were conducted using Qualtrics, an online data collection platform. Qualtrics retained and stored participation information. No information was collected on Prolific regarding study survey. Prolific assigned anonymous participant IDs, ensuring no identifying information was shared with the researcher. Participant IDs could not be connected to personal identifiers. No identifying participant information was collected by Prolific or the Qualtrics survey. As an authorized user of the College of Social and Behavioral Science's Qualtrics account, the researcher and faculty sponsor had sole access to and full control of the data collected through the Qualtrics platform. Qualtrics is FedRamp Authorized, that is, certified by the Federal Risk and Authorization Management Program. This certification signifies Qualtrics' compliance with the highest industry security standards, including the rules for health information security specified in the Health Information Technology for Economic and Clinical Health Act (HITECH; see <https://www.qualtrics.com/security-statement/> for more detail). Qualtrics employees would not have access to data unless the researcher gave consent (<https://www.qualtrics.com/privacy-statement/>). The researcher downloaded deidentified participant data from Qualtrics onto a password-protected, password-encrypted OneDrive cloud.

Upon clicking survey link, participants were directed to the Qualtrics survey. Before accessing measures, participants consented to participate in the study by acknowledging and selecting "I agree" at the beginning of survey. An informed consent document appeared on the first page explaining study description, purpose, conditions, participant qualifications,

protections, compensation, time commitment, and unforeseeable risks and benefits. Resources were provided for counseling agencies, crisis lines, and institutional contact information.

The participant was informed completing the study was required to receive compensation, which may increase incentive to participate. Participants were still reminded to voluntary nature of their participation, and they could discontinue the study at any time. In addition, the participant was informed their information would be kept anonymous. All websites and programs used for data collection did not store participant-identifying information and used anonymous participant IDs. The informed consent explained collected results would be used solely for the student's learning in the dissertation, publication, conference dissemination, and/or psychological forums (informal and formal).

Once consent was accepted, the researcher collected demographic information regarding adult participants' age, gender, childhood location, race/ethnicity, education, and childhood socioeconomic status. The researcher used two other measures, the ACES-Q and adapted items derived from DBRS. The survey measures, including demographic information, ACES-Q, and DBRS, are all available for public use. The ACES-Q was published by Felitti et al. (1998) in collaboration with Kaiser Permanente and the Centers for Disease Control and Prevention. The questionnaire can be found at <https://www.rockefellerfoundation.org/wp-content/uploads/2021/03/ACE-Questionnaire.pdf> and <https://www.acesaware.org/wp-content/uploads/2022/07/ACE-Questionnaire-for-Adults-Identified-English-rev.7.26.22.pdf>. Additionally, the DBRS is available at the Center for Children and Families at Florida International University. The measure can be located at https://ccf.fiu.edu/research/_assets/dbd-rating-scale.pdf. The researcher asked an ODD symptom severity question (i.e., mild, moderate, severe) following questionnaires for those reporting four or more symptoms for participants from

age 3–18. Those who reported 0–3 ODD symptoms had their severity level coded as none. Completing survey was estimated to take 10–15 minutes.

The data were collected and stored in a password-protected, password-encrypted OneDrive cloud and analyzed in SPSS. During statistical analysis, SPSS software was used to store participant archival data. SPSS software does not store, save, or use archived data. The researcher had total control of how data were handled, used, and stored (<https://www.ibm.com/docs/en/spss-statistics/25.0.0?topic=gdpr>). Additionally, data were securely stored as an SPSS Modeler working file (.str), which was restricted by file authentication and encryption, or repository authentication and encryption (see <https://www.ibm.com/docs/en/spss-modeler/18.3.0?topic=streams-encrypting-decrypting-information> for more details). The researcher will maintain data records for 5 years after completion of study. All data were stored on password-encrypted OneDrive cloud. All data forms and information will be destroyed on 03/01/2030.

Participants in this study were assessed using four different measures: demographic questions, the ACES-Q, items derived from DBRS, and symptom severity question. The target population included individuals aged 18–48, located in the United States, and who experienced a childhood physical or sexual trauma by an adult 5 years older than the participant during ages 3–18. The ACES-Q evaluated presence or absence of physical and sexual trauma experiences from Questions 2 and 3. The questions were structured to collect information in a yes/no format, limiting and protecting participants' psychological harm by asking only the minimum necessary. The researcher did not evaluate trauma frequency or symptomatology impact, including symptoms of posttraumatic stress disorder (PTSD). As a result, participants were not evaluated

for other related diagnoses such as CD, PTSD, depression, anxiety, and disruptive mood dysregulation disorder.

Participants were evaluated on ODD symptoms based on number of reported ODD symptoms from the adapted version of the DBRS. The researcher adapted and derived items from the DBRS to include only symptoms consistent with an ODD diagnosis, based on proposed criteria for assessing such a condition. The DBRS evaluated diagnostic criteria defined by DSM-5-TR and various symptomatology profiles of ODD.

Following the DBRS, symptom severity was based on scorers who reported four or more symptoms and the number of settings in which their symptomatology was present during childhood. Based on DSM-5-TR, individuals who report symptoms occurring in one setting meet mild severity; participants receive moderate severity if symptoms are present in two settings and severe if they are present in three or more settings (APA, 2022). The Symptom Severity question was asked of those reporting four or more symptoms. Participants who reported 0–3 symptoms were automatically coded as none for their severity level. Participants did not need to meet diagnostic criteria to participate in the current study. The researcher used this measure for research purposes and did not use this information for diagnostic purposes. Lastly, the researcher did not include participants with missing or incomplete data regarding ODD symptomatology, symptom severity, trauma history, and/or demographic questions.

The researcher conducted an ordinal logistic regression analysis to analyze variables of interest. An ordinal logistic regression was selected to analyze the two predictor variables (childhood trauma type and childhood socioeconomic status [SES]) and their relationship to the outcome variable (ODD symptom severity in childhood). The researcher was also interested in evaluating the interaction of the predictor variables on the outcome variable. The researcher used

a sample size calculator from Statistics Kingdom (n.d.) to determine a representative sample size for ordinal logistic regression. The researcher chose a power of .80 and a medium effect size to ensure study results are generalizable to the population. The sample calculator suggested 300 participants to create a representative sample of current population of interest. Data were discontinued once statistical power had been achieved.

Summary

The current study evaluated individuals aged 18–48 who grew up and could access mental health services in the United States to explore the connection between childhood trauma and behavioral dysfunctions. The researcher used the ACES-Q and items derived from DBRS to gather information on presence of childhood physical and/or sexual trauma by an adult or person 5 years or older than the participant and ODD symptoms during ages 3–18. The Symptom Severity question assessed severity of ODD symptomatology among those endorsing four or more symptoms from age 3–18. The present research aimed to identify the connection between childhood physical and/or sexual trauma and ODD symptomatology. By exploring this link, researchers can identify the impact of traumatic experiences on behavioral disorders to create a new understanding of symptom presentation and approach to treatment. A new approach may open other avenues for treatment to conceptualize a child struggling with these difficulties. By looking at the interaction between childhood physical and/or sexual trauma, research can expand upon diagnostic conceptualization of oppositionality, introducing new treatment and prevention efforts.

Chapter 3

Demographic Variables

The final sample included 303 individuals. Participants were assessed on six demographic variables: age, gender, childhood location, race/ethnicity, education, and childhood socioeconomic status (SES). Frequencies and percentages were calculated for each variable.

Participant Characteristics

Descriptive statistics for demographic variables are presented in the preceding section. Participants' ages ranged from 18–48 years old due to required criteria for participation. The most common age group was 36–40 years old ($n = 65$, 21.45%), followed by 31–35 years old ($n = 64$, 21.12%). Participants aged 41–45 years accounted for 20.79% of the sample ($n = 63$), while those aged 26–30 years accounted for 16.17% of the sample ($n = 49$). Those aged 21–25 accounted for 10.23% ($n = 31$), while 9.57% of the sample included participants aged 45–48 ($n = 29$). The remaining participants were aged 18–20, encompassing 0.66% of the sample ($n = 2$).

Approximately 59.41% of participants ($n = 180$) identified as White/European American, while 16.83% ($n = 51$) identified as Black/African American. The remaining participants were distributed across Hispanic/Latino (11.88%), Asian/American (6.27%), Native Hawaiian/Pacific Islander (1.32%), American Indian/Alaska Native (1.63%), and other (2.64%). Approximately 65.02% of the sample identified as female and 34.65% identified as male. The remaining 0.33% of the sample chose not to say in regard to gender.

The majority of participants in the sample had some college education and a high school education. The most frequent education level was holding an associate's/bachelor's degree ($n = 119$, 39.27%), followed by some college (25.08%), a high school diploma/GED (20.13%), master's/doctoral degree (10.56%), professional degree (4.9%), and some high school (0.66%).

Participants reported childhood residence across 40 U.S. states, with highest representation from California (14.52%), followed by Texas (8.25%), Florida (7.92%), and New York (6.60%). Other reported locations can be found in Table 1. Participants were distributed across socioeconomic backgrounds in childhood, with a medium SES occurring the most frequently ($n = 158$, 52.15%). Participants reported a low SES at 45.87% ($n = 139$) and high SES at 1.98% ($n = 6$). Frequencies and percentages are presented in Table 1.

Table 1

Frequency Table for Nominal and Ordinal Variables

Category	Variable	<i>n</i>	%
Age	18–20	2	0.66
	21–25	31	10.23
	26–30	49	16.17
	31–35	64	21.12
	36–40	65	21.45
	41–45	63	20.79
	45–48	29	9.57
Race/Ethnicity	White/European American	180	59.41
	Asian	19	6.27
	Hispanic/Latino Origin	36	11.88
	Black/African American	51	16.83
	Native Hawaiian/Pacific Islander	4	1.32
	American Indian/Alaska Native	5	1.65
	Other	8	2.64
Gender	Female	197	65.02
	Male	105	34.65
Education	Prefer not to say	1	0.33
	Some high school	2	0.66
	High school diploma/GED	61	20.13
	Some college	76	25.08
	Associate's degree and/or bachelor's degree	119	39.27
	Professional degree	13	4.29
	Master's degree and/or doctoral degree	32	10.56
Childhood location	California	44	14.52
	Oregon	2	0.66
	Pennsylvania	20	6.60
	Washington	11	3.63

Category	Variable	<i>n</i>	%
	Massachusetts	9	2.97
	Virginia	5	1.65
	Louisiana	3	0.99
	Mississippi	3	0.99
	New York	20	6.60
	Texas	25	8.25
	Colorado	4	1.32
	Wisconsin	9	2.97
	Maine	2	0.66
	Maryland	6	1.98
	Georgia	6	1.98
	Indiana	5	1.65
	North Carolina	7	2.31
	Illinois	11	3.63
	Arizona	3	0.99
	Kansas	2	0.66
	South Carolina	4	1.32
	Florida	24	7.92
	Michigan	9	2.97
	Utah	3	0.99
	New Jersey	11	3.63
	Minnesota	2	0.66
	Kentucky	5	1.65
	Nebraska	2	0.66
	Arkansas	4	1.32
	Ohio	14	4.62
	Oklahoma	5	1.65
	Vermont	1	0.33
	Rhode Island	2	0.66
	Alabama	2	0.66
	Hawaii	2	0.66
	South Dakota	1	0.33
	New Mexico	1	0.33
	New Hampshire	1	0.33
	Nevada	1	0.33
	Connecticut	3	0.99
	Iowa	2	0.66
Socioeconomic status	Low	139	45.87
	Medium	158	52.15
	High	6	1.98

Note. Due to rounding errors, percentages may not equal 100%.

Oppositional Defiant Disorder Symptom Severity by Trauma Type and SES

Participants were assessed on oppositional defiant disorder (ODD) symptom severity (i.e., none, mild, moderate, severe) filtered by their childhood trauma type (i.e., physical, sexual, both) and socioeconomic status (i.e., low, medium, high). Descriptive statistics were calculated for ODD symptom severity filtered by type of childhood trauma and socioeconomic status.

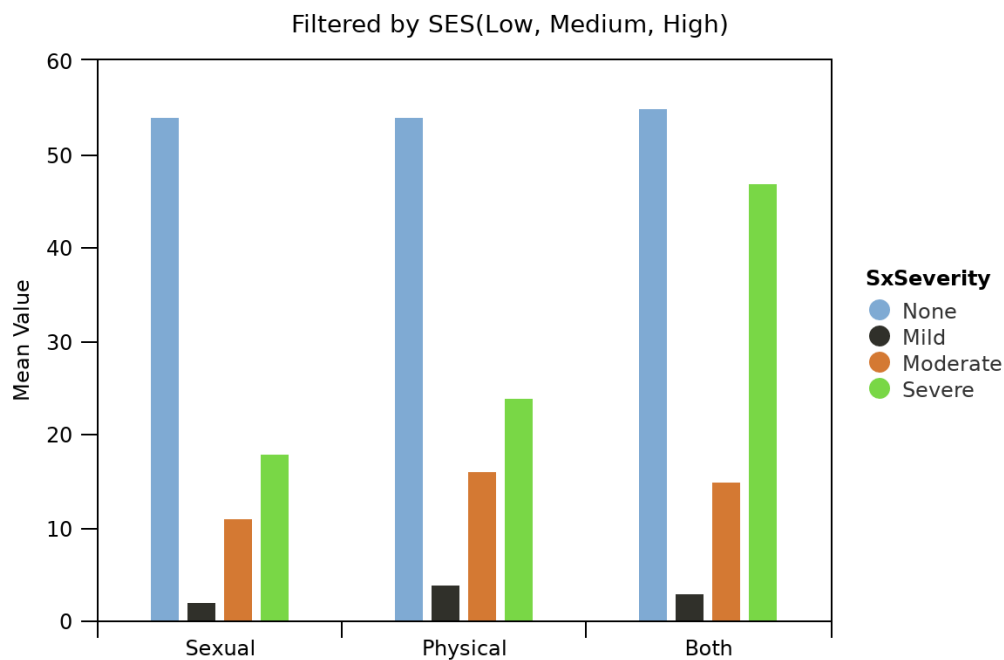
Across trauma types and SES groups, the most frequently observed category was none for ODD symptom severity level, due to many participants reporting four symptoms or fewer on the adapted Disruptive Behavior Disorder Scale (DBRS). Severity levels, including those reporting four or more symptoms at a mild, moderate, or severe symptom presentation, differed amongst socioeconomic status, specifically the medium-SES group ($n = 67$, 57.45%) and low-SES group ($n = 64$, 71.43%). Additionally, childhood physical trauma was associated with moderate and severe ODD severity levels, particularly among the low SES group ($n = 18$, 50%).

Participants who reported both childhood physical and sexual trauma represented the highest proportion of severe ODD symptoms across all SES groups. Participants who met a severe symptom presentation had an observed frequency of 25 (36.76%) in the low-SES group and increased to 40% ($n = 20$) in the medium-SES group. Moreover, individuals in the low-SES groups represented the highest proportion of members reporting none as their ODD severity level. Among participants reporting both physical and sexual trauma, very few individuals were categorized as high SES ($n = 2$), limiting interpretation of severity patterns in this subgroup. Frequencies and percentages are presented in Table 2. See Figure 1 for a visual representation of current data set.

Table 2*Frequency Table for ODD Symptom Severity Filtered by Trauma Type and SES*

Trauma type	SES	None, <i>n</i> (%)	Mild, <i>n</i> (%)	Moderate, <i>n</i> (%)	Severe, <i>n</i> (%)	<i>n</i>
Sexual	Low	25 (71.43)	1 (2.86)	0 (0.00)	9 (25.71)	35
Physical	Low	16 (44.44)	2 (5.56)	8 (22.22)	10 (27.78)	36
Both	Low	34 (50.00)	0 (0.00)	9 (13.24)	25 (36.76)	68
Sexual	Medium	27 (57.45)	1 (2.13)	11 (23.40)	8 (17.02)	47
Physical	Medium	37 (60.66)	2 (3.28)	8 (13.11)	14 (22.95)	61
Both	Medium	21 (42.00)	3 (6.00)	6 (12.00)	20 (40.00)	50
Sexual	High	2 (66.67)	0 (0.00)	0 (0.00)	1 (33.33)	3
Physical	High	1 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	1
Both	High	0 (0.00)	0 (0.00)	0 (0.00)	2 (100.00)	2

Note. Due to rounding errors, percentages may not equal 100%.

Figure 1*Bar Plot of Trauma Type by ODD Symptom Severity*

Ordinal Logistic Regression Analyses

An ordinal logistic regression was conducted to determine if the relationship between ODD symptom severity (i.e., none, mild, moderate, severe) could be explained by variation in childhood trauma type (i.e., physical, sexual, or both) and socioeconomic status (i.e., low, medium, high).

Assumptions

Variance Inflation Factors. Variance inflation factors (VIFs) were calculated to detect multicollinearity among predictors (see Table 3). High VIFs indicated greater multicollinearity in the model. VIFs higher than 5 caused concern, whereas VIFs of 10 should be evaluated as the maximum limit (Menard, 2009). Variance inflation factors indicated substantial multicollinearity in the interaction term between trauma type and SES (VIF = 21.61), exceeding acceptable thresholds and suggesting instability in parameter estimates. As a result, interaction effects should be interpreted with extreme caution.

Table 3

Variance Inflation Factors for Trauma Type, SES, and Trauma Type x SES

Variable	VIF
Trauma type	5.35
SES	7.49
Trauma type x SES	21.61

Proportional Odds Model. Proportional odds were estimated due to instability with the nonproportional odds model. The proportional odds assumption was evaluated and retained due to instability observed in the nonproportional odds model. However, results should be interpreted cautiously, as instability may reflect sparse data across outcome categories and partial separation

between predictors and severity levels. This instability may be due to potential separation between predictors and outcome categories, as well as near-zero associations between some predictors and the outcome.

Results

The ordinal logistic regression model differed significantly from an intercept-only model, $\chi^2(8) = 16.30, p = .038$, Nagelkerke $R^2 = .059$. Model fit was assessed using McFadden's R^2 , which was .03, indicating weak model fit (Louviere et al., 2000). This suggested the predictors explained a limited proportion of variance in ODD symptom severity and coefficient estimates should be interpreted cautiously. In addition, substantial multicollinearity and sparse data across some predictor categories may have contributed to instability in parameter estimates.

The ordinal logistic regression model was evaluated at an alpha level of .05. The overall model differed significantly from an intercept-only model, indicating at least one predictor contributed to the prediction of ODD symptom severity. Therefore, these results indicated the effects on trauma type and SES on ODD symptom severity were unlikely to have occurred under the null hypothesis.

The regression coefficient for both childhood physical and sexual trauma was significant, $B = 0.89, \chi^2 = 4.41, p = .036$, indicating both experiences of childhood physical and sexual trauma are associated with greater odds of higher ODD symptom severity. The regression coefficient for physical trauma was not significant, $B = 0.84, \chi^2 = 3.10, p = .078$, suggesting these experiences alone do not increase likelihood of ODD symptom severity in childhood. Similar results were found for sexual trauma alone, indicating the result was not a significant predictor of the outcome variable. The regression coefficient for medium, $B = 0.37, \chi^2 = 0.64, p = .423$, and high SES, $B = 0.32, \chi^2 = 0.07, p = .788$, were not significant in predicting ODD

symptom severity. These results indicated SES did not affect ODD symptom severity, indicating hypothesis four is not supported. According to Hypothesis 5, the interaction between trauma type and SES was not significant in predicting ODD symptom severity, $B = -0.86$, $\chi^2 = 1.97$, $p = .160$. Within limitations of the model, only Hypothesis 3 showed a statistically significant association, suggesting exposure to both physical and sexual trauma was associated with higher ODD symptom severity compared to single-trauma exposure (see Table 4).

Table 4

Ordinal Logistic Regression Results for Trauma Type and SES at predicting ODD Symptom Severity

Predictor	<i>B</i>	<i>SE</i>	χ^2	<i>p</i>	<i>OR</i>	95% CI
Trauma type physical	0.84	0.48	3.10	.078	2.31	[0.91, 5.89]
Trauma type both	0.89	0.42	4.41	.036	2.44	[1.06, 5.62]
SES medium	0.37	0.46	0.64	.423	1.45	[0.59, 3.56]
SES high	0.32	1.21	0.07	.788	1.38	[0.13, 14.68]
Physical trauma x SES medium	-0.86	0.61	1.97	.160	0.42	[0.13, 1.41]
Both trauma x SES medium	-0.16	0.58	0.07	.785	0.85	[0.28, 2.65]
Physical trauma x SES high	-29.23	741,714.55	0.00	1.000	2.02×10^{-13}	[0.00, Inf]
Both trauma x SES high	29.31	449,157.46	0.00	1.000	5.36×10^{-13}	[0.00, Inf]

Chapter 4

The current study examined the relationship between childhood traumatic events (i.e., physical, sexual, or both), socioeconomic status (SES), and oppositional defiant disorder (ODD) symptom severity. The intention was to explore a link between childhood trauma and severity of ODD symptomatology across multiple settings, while considering impact of various socioeconomic backgrounds. Statistical analysis using an ordinal logistic regression supported findings that may further the field and study of traumatic stress on childhood behaviors but may warrant future investigation due to statistical limitations. The present study aimed to further the field of psychology and add to growing body of literature supporting the connection between ODD and childhood traumatic experiences.

The analysis suggested those who experienced both childhood physical and sexual trauma were associated with a higher rate of experiencing more severe symptoms of ODD compared a single trauma event alone. This finding is consistent with previous literature supporting greater externalizing behaviors, including aggression and conduct symptoms, with children who have experienced multiple exposures to trauma events (Moylan et al., 2010). Unexpectedly, SES on the impact of severity of ODD symptoms was not supported in this model, contrary to previous findings (Granero et al., 2015). Alternatively, existing literature may also suggest a complex relationship with possibility of other confounding variables, including participant sex, age, or parental reports, as having an impact ODD symptoms and socioeconomic status (Piotrowska et al., 2015). In the current study, SES was not found to significantly moderate the association between childhood trauma and ODD symptom outcomes. Additionally, these results should be interpreted within context of the study's methodological limitations, including limited data in the higher SES groups and model instability. These findings may

suggest complexity of trauma experiences, including those in childhood and potentially adulthood.

Interpretation of Findings

The pattern of results suggests individuals who experienced both childhood sexual and physical trauma demonstrated higher ODD symptom severity within limitations of the model. Comparatively, those with childhood physical trauma or sexual trauma alone did not emerge as significant predictors for higher ODD symptom severity. These findings may be understood within effects of cumulative risk, in which exposure to multiple traumatic events is associated with greater behavioral and emotional dysregulation. Prior research has similarly suggested multiple trauma exposures are linked to more severe and complex posttraumatic symptom presentations (Choi et al., 2025). Although the current study did not assess posttraumatic stress directly, the observed pattern aligns conceptually with literature describing impact of chronic and complex trauma on developmental and behavioral outcomes.

Complex-posttraumatic stress disorder (C-PTSD), interestingly, is not widely recognized in the latest version of DSM-5-TR, but is recognized as an ICD-11 diagnosis (Cutlip et al., 2023; World Health Organization, 2022). This inconsistency is partially due to insufficient evidence to distinguish features of borderline personality disorder from C-PTSD and its relationship to a traditional posttraumatic stress disorder (PTSD) presentation (Cutlip et al., 2023). As a result, we may be missing key patterns of chronic and complex traumatic stress on adults, and misunderstanding their effects in children (Hébert et al., 2024). Therefore, more research is needed to understand how this condition may impact the child population. Additionally, as Cutlip et al. (2023) proposed, an absence of a C-PTSD diagnosis may lead to inappropriate and harmful care, as there have been limited treatment options specifically validated for this unique

presentation. The current research may resemble patterns consistent with literature on chronic and complex trauma, emphasizing the importance of understanding clinical pathology to inform better evidence-based interventions for these presentations. More research is needed to understand how this might impact a developing child and their future life trajectory.

Trauma Type and Symptom Severity

The finding that childhood physical trauma alone did not differ from childhood sexual trauma in predicting ODD symptom severity is noteworthy, as previous research may suggest otherwise. Although childhood sexual trauma did not reach statistical significance in predicting ODD symptom severity, this finding may reflect limited statistical power to detect small-to-moderate effects within the current sample, as indicated by a priori power analysis. These results may suggest a potential relationship between specific types of trauma, such as sexual trauma, and symptom severity, pointing to significant psychological impacts. Previous research has indicated individuals who have experienced sexual abuse may have greater psychological difficulties than their peers, developing internalizing conditions, such as anxiety and increased hypervigilance (Magalhães & Camilo, 2023; Maniglio, 2012). Additionally, other presentations may include beliefs of self-blame and failure, which may impact an individual's psychological functioning (Magalhães & Camilo, 2023). Whereas physical trauma may be more representative of aggressive behaviors due to an abusive modeling effect by parents (Felson & Lane, 2009; Magalhães & Camilo, 2023). Although the present study does not demonstrate a stronger effect of sexual trauma relative to other trauma types, the findings highlight need for future research to further examine trauma-specific pathways to oppositional behavior.

SES and Symptom Severity

The analysis suggested SES did not support ODD symptom severity at medium ($p = .423$) or high ($p = .788$) SES levels. Granero et al. (2015) found individuals with low SES were more likely to have high ODD symptom levels, partially characterized by parental behaviors, a child's executive functioning, and emotional control. Individuals in the study exhibited more at-risk levels of aggression and other externalizing behaviors. Interestingly, Granero et al. (2015) did not find any gender differences, noting both females and males displayed oppositional behavior when from lower-SES backgrounds. Previous literature, including Brooks-Gunn and Duncan (1997) and Mistry et al. (2002) reported similar findings. Alternatively, Piotrowska et al. (2015) found oppositional behaviors were found across the full socioeconomic classification scale. The study found parental income was a better predictor of severity of disruptive behaviors, limiting potential for improvement over time. These previous findings are notable because the impact of socioeconomic status on oppositional behaviors remains unclear, and other confounding factors may affect this relationship.

Interaction Between SES and Trauma on Symptom Severity

The analysis did not support evidence that socioeconomic status moderated the association between childhood trauma and ODD symptom outcomes within this sample. This result should be interpreted cautiously, as absence of a detected interaction does not indicate socioeconomic factors are unrelated to trauma-related outcomes. Notably, the current findings may not align with existing literature suggesting low socioeconomic status may worsen vulnerability to developing childhood psychological pathology. Goldmann et al. (2011) found individuals living in impoverished metropolitan cities were more likely to experience exposure to violence and crime. Thus, individuals living in lower-income areas and who receive limited

education may be more at risk for susceptibility to posttraumatic stress due to repetitive and chronic exposure to such conditions.

The lack of significant interaction effects may stem from several factors noted in the analysis's limitations. First, high multicollinearity (variance inflation factor [VIF] = 21.61) with a cut-off interpretation of 10 may suggest potential instability in the model (Menard, 2009). This statistical limitation reduces confidence in rejecting the null hypothesis. Additionally, sparse representation of participants in higher SES groups may have greatly impacted statistical conclusions in the current sample. Second, the relationship between trauma, socioeconomic factors, and psychological outcomes is complex and may involve multiple pathways not captured in our analytical model (Breslau et al., 2013). As researchers examine SES further, it may be helpful to consider other potentially confounding variables that could affect the relationship between proposed variables. As previously examined, environmental factors (e.g., crime, poverty, and access to education) may significantly impact a child's psychological functioning (Brooks-Gunn & Duncan, 1997). It is clear there is a complex relationship between these factors, and further examination may be warranted.

Theoretical Implications

The current study proposed future directions for the field of childhood trauma research by addressing its complex effects on a child's predisposition and vulnerability to developing future pathology. First, the effect of polyvictimization, which involves experiencing multiple types of trauma, including physical assault, maltreatment, sexual abuse, and bullying, can have lasting emotional harm on the individual (Finkelhor et al., 2011). Finkelhor et al. (2011) also found children who experienced a physical assault in the last year were 5 times more likely to experience a sexual assault and four times more likely to have been maltreated during this

period. Similarly, children who were physically assaulted during their lifetime were 6 times more likely to experience a sexual assault and 5 times more likely to be maltreated.

These findings suggested a pattern within the sample, as participants who experienced both traumas ($n = 120$, 39.6%) occurred the most frequently than those who experienced only one trauma. Individuals who experienced just childhood physical trauma made up 32.34% of the sample ($n = 98$) and just childhood sexual trauma made up 28.05% of the sample ($n = 85$). The results indicated for the participant sample, it was more often participants had both experiences, while it is unknown whether they met criteria for other types of adverse life events, such as maltreatment, verbal abuse, neglect, and adverse family histories, as the current study did not evaluate those variables. Participants' total adverse childhood experiences (ACEs) scores may have displayed a wider picture for effects of adversity on childhood behaviors and should be considered as a future direction. As researchers Brown et al. (2009) found, a higher ACEs score has been shown to lead to many negative health outcomes, including shortening total lifespan by about 20 years. As a result, children who experience trauma are not only more likely to experience multiple events throughout their lifetime but may also be more predisposed to future health and mental health problems (Asmundson & Afifi, 2020).

Trauma Complexity and Socioeconomic Considerations

The current data highlighted importance of evaluating interactions that worsen childhood trauma outcomes by reviewing individual vulnerabilities, traumatic exposure, and environmental contexts. The observed relationship may support importance of examining trauma type, frequency, and complexity when evaluating ODD symptom severity. The initially proposed environmental factor (i.e., SES) was not detected in the current model as being associated with the individual's severity of ODD symptoms.

Trauma Complexity and Symptom Severity. Previous literature by Herman (1992) and van der Kolk et al. (2005) supports complexity of trauma experiences among children, proposing an intricate relationship with alternative factors, including age of onset, multiplicity of trauma, and other diagnostic considerations. For example, participants in van der Kolk et al. (2005) were more likely to endorse symptoms of extreme stress, including dysregulation in affect, attention/concentration, self-perception, relation with others, somatization, and systems of meaning, suggesting co-occurrence with other conditions. Herman (1992) proposed other factors, including severity of the event and its psychological impact, have a greater effect on psychopathology development resulting from traumatic experiences. Furthermore, individual personality characteristics had a limited effect on the event itself (Green et al., 1990). Multiple factors may be at play when evaluating each individual's symptom severity.

The current study aligned conceptually with existing literature proposing the effects of multiple or prolonged trauma, especially interpersonal experiences, as more complex in their diagnostic presentation. It should be noted the current study held significant methodological limitations, including substantial multicollinearity and sparse data in high-SES groups, which may impact interpretation of results. Within methodological limitations, the current study may support effects of the multiplicity of traumatic experiences, which may impact other diagnostic considerations, including childhood disorders. However, more information may be needed to understand the unique relationship with other contributing factors, especially among those who endorse one childhood event.

Park et al. (2014) found individuals exposed to one potentially traumatic event were less likely to be diagnosed with a psychological disorder. However, previous studies have confirmed multiple traumatic events have a strong association with all clinical disorders (Kessler et al.,

2010). Furthermore, current literature regarding comorbid/differential diagnostic considerations including presence of personality, affective, impulse, antisocial disorders, substance abuse, somatization, and dissociative disorders, and PTSD diagnoses in adults may require future research to evaluate presentations in childhood and how it impacts presence of disruptive behaviors (van der Kolk et al., 2005).

Another challenge noted in the discussion by van der Kolk et al. (2005) was when trauma was not mentioned in research, there were limited studies on presence of posttraumatic stress. Similarly, this may impact evaluation of other childhood disorders where absence of trauma or experiences do not diagnostically fit as a “traumatic event” may impact necessity to search for alternate casual factors. Therefore, it may be important for future research to incorporate inclusion of adverse childhood experiences as a form of trauma criteria to better understand their impact on development of psychopathology in children (van der Kolk et al., 2005).

Socioeconomic Factors. The study sample did not support effects on socioeconomic backgrounds, challenging previous assumptions regarding resource accessibility in susceptibility to the trauma condition. This finding was not consistent with existing literature supporting the conservation of resources model developed by Hobfoll (1989). According to the conservation of resources model, trauma is a loss of resources, including an individual’s sense of self, identity, control, self-esteem, and safety (Buchwald, 2009). Therefore, individuals may be more at a social disadvantage, leading to poor coping and recovery from traumatic experiences. Those who are at a social advantage tend to be more resilient in recovering from a traumatic event, regardless of development of acute stress symptoms (Herman, 1992).

Additionally, individuals experiencing economic and material hardship are at higher risk for trauma exposure and degree of PTSD symptoms (Holmes et al., 2021). Cohen et al. (2024)

found neighborhood-level income was significantly associated with higher PTSD symptom scores. Similar to results found in Holmes et al. (2021), Assari (2020) observed a relationship between parental education and family income in reducing exposure to childhood trauma, pointing to a sociocultural and ethnic disadvantage for non-Hispanic Black individuals in the study. Assari (2020) found marginalized and stigmatized social groups were at a significant disadvantage in trauma experiences in comparison to socially privileged groups. The previous study may suggest a future research direction assessing a potential interaction between race/ethnicity and socioeconomic background on presence of complex trauma, which may impact further child functioning and psychological outcomes. Additionally, future research may need to consider other variables contributing to the current evaluated relationship in understanding child psychological functioning and disruptive behavior disorders. As Ellis et al. (2017) argued, socioeconomic contexts may negatively influence trauma outcomes but may require a more sophisticated model to understand their effects on biopsychosocial functioning.

Clinical Implications

The current study offered many practical implications that may inform future clinical conceptualization, interventions, and trauma-informed care. First, the association between both childhood physical and sexual trauma and ODD symptom severity emphasized importance of comprehensive psychological assessment during treatment. A trauma informed care model highlights value of trauma assessment in targeting interventions and reduce future risk with therapy outcomes (SAMHSA, 2014). For example, providers who may be more inclined not to assess trauma experiences if it is not clinically indicated, but may miss vital information about the individual's functioning and potential for differential diagnoses. This may cause future harm to clients risking their treatment engagement, commitment, and trajectory (SAMHSA, 2014).

Briere (1992) suggested mental health professionals should always inquire about trauma histories and assess for traumatic stress reactions. Additionally, screening for traumatic stress in child populations may be less common as there is limited evidence to support presence of a PTSD disorder in childhood (Copeland et al., 2007). Previous research referenced importance of trauma assessment in primary care settings, but the field of psychology may need further guidance regarding routine assessment for traumatic events (Campbell et al., 2024). Best practices would encourage clinicians to routinely assess for diverse traumatic experiences, inquiring about adverse child experiences to fully capture the client's presenting concerns and final diagnosis to inform their treatment (Lerner et al., 2003).

These findings also suggested complex presentations of traumatic experiences may require more specialized or intensive treatment approaches. An essential piece of trauma-informed care may be including a phase-oriented approach that prioritizes stability and preparedness of the client to approach treatment of posttraumatic stress (van der Hart et al., 2013). In considering methodological limitations, this model appeared consistent conceptually within existing literature regarding complexity of the trauma experience in processing trauma memories and reducing physiological distress. These approaches may also be especially beneficial with overlapping dissociative features, phobias, and other complex trauma-related symptoms. Other researchers, including Courtoise and Ford (2016), recommended phase-based approaches prioritizing therapeutic alliance, safety, stability, and skill building as an essential component for treating complex trauma. The current research provided support for future research directions in a more tailored approach with treating complex trauma presentations.

The absence of socioeconomic effects on symptom severity may suggest more research is needed to understand complex presentations of posttraumatic stress across sociocultural

backgrounds. Therefore, interventions may require further support to validate their usage across socioeconomic backgrounds to strengthen their effectiveness and optimize treatment outcomes. As proposed in previous research, de Haan et al. (2024) explained treatment can be effective across diverse groups, where benefits do not differ substantially by participant characteristics. However, other sociocultural barriers, such as transportation, financial accessibility, scheduling constraints, and access to childcare may be an important consideration when providing care to various groups (Bryant-Davis & Ocampo, 2006). As a result, these approaches may help create a more inclusive and accessible treatment space for people across all socioeconomic backgrounds.

The current research may also align conceptually with the importance of measuring trauma prevention efforts, at a primary and secondary level, in future research as individuals who are more susceptible to multiple trauma exposures may be at a disadvantage due to inaccessibility of mental health care (Magruder et al., 2016). Margurder et al. (2016) mentioned often a barrier to trauma-informed care is children and their families who have experienced trauma are not seeking out mental health services. Therefore, it may be important to consider avenues to support reducing future risk through secondary factors, while evaluating sensitivity and accessibility of clinical intervention. Future studies may evaluate adjacent systems, including schools, health care, child protections/welfare, and law enforcement agencies, who reach underserved and underrepresented populations when they use of trauma-informed care models and preventative efforts to understand its effect on childhood trauma prevention.

Limitations

Several important limitations should be noted when interpreting the current findings. First, the statistical analysis revealed high multicollinearity, with a VIF of 21.61, drastically impacting the interaction evaluating childhood trauma type and socioeconomic status on ODD

symptom severity. Multicollinearity of this magnitude compromises stability of the interaction effects and coefficient stability, reducing confidence in ability to reject the null hypothesis for these effects. Therefore, results from this interaction should be interpreted with this in mind and with caution.

Additionally, the model demonstrated weak explanatory power, with McFadden's R-squared of 0.03, well below the 0.2 threshold for a good fit. This suggested trauma type and socioeconomic status account for a small proportion of variance in symptom severity, indicating other unmeasured variables may better explain the interaction effects on symptom severity. Mistler and Enders (2017) suggested low explanatory power can often be attributed to missing mediating or moderating variables, suggesting information regarding the current interaction is missing.

The current analysis incorporated methodological adaptations, including an adapted DBRS measure to align with intended research focus on ODD-specific symptoms. Due to the DBRS being used outside of its intended scope of practice, full psychometric properties (i.e., reliability, validity) of the measure cannot be applied to the current study. These adaptations were implemented to prioritize alignment with DSM-IV-TR criteria for ODD, allow for retrospective self-report assessment, and align conceptually with the research's aims. Additionally, the data obtained was intended for research purposes to analyze the collected information descriptively, rather than diagnostically. Therefore, the adapted DBRS cannot be used to assign or infer diagnostic information regarding participant's symptoms. The selection and adaptation of this measure were guided by scientific rationale as there are no measures intended for retrospective reports of childhood ODD symptoms in adult samples. Prior research has supported use of adult recall of childhood experiences for descriptive research; however,

such retrospective reports may be substantially affected by recall bias and inaccuracies in historical reporting (Brewin et al., 1993; Henry et al., 1994). Therefore, the current study results should be interpreted cautiously.

Additionally, the categorical nature of independent and dependent variables may affect individuals' perceptions of measurement. For example, the socioeconomic status variable was left to each participant's interpretation and was not clearly defined regarding what met criteria for low, medium, or high. As such, sparse representation in high-SES groups may have greatly impacted reliability of SES-specific and interaction effects. Comparatively, the low-SES group was more highly represented in the study sample. It may have been more effective to define SES based on household income, providing a clear indication of how each individual fits within these parameters. Similarly, the ODD symptom severity question (i.e., none, mild, moderate, severe) may have had similar effects as the variable was defined based on participants' interpretation of their retrospective symptoms. Future research may consider refinement of variables to continuous measures to better capture specificity of socioeconomic factors and symptom presentation.

Lastly, the current study did not account for alternative confounding variables, which may have contributed to weak model fit and influenced the interaction effects on the outcome variable. In the future, it may be important to account for other confounding variables, including forms of trauma exposure, complexities of experience, and extrinsic factors to more accurately estimate interaction effects. Previous research by Ogle et al. (2013) supported alternative diagnostic features, including age of onset and effects of cumulative trauma, when considering symptom presentation, suggesting a more intricate relationship between these experiences.

Therefore, it may be essential to consider alternative explanations when evaluating these complex relationships.

Future Research Directions

The current study suggested many potential future research directions, including methodological considerations and development and treatment implications of complex posttraumatic stress and its impact on disruptive childhood behaviors. Further exploration of effects of complex trauma in childhood is warranted. Although C-PTSD was not formally recognized in DSM-5-TR, emerging empirical research has supported these presentation distinctions, with missing support regarding its effects on children. Future studies evaluating complex presentations, including affect regulation, self-concept, and interpersonal functioning, may clarify how these trauma-related symptoms cluster may be mistaken for other childhood disorders.

More research would inform evidence-based practice to target complex trauma presentations, which may include disruptive behaviors and other co-occurring symptoms. Therefore, evidence-based intervention may take a symptom-focused and phase-oriented model that is sensitive to trauma experience, while also treating other problematic presentations. For example, targeted intervention can focus on adaptive coping and healthy reintegration after the event to prioritize trauma-informed care. Future research could evaluate difference in treatment outcomes between phase-oriented and traditional practices to establish best practices for complex trauma. As a result, the field of psychology may have better tools for assessment of complex trauma and its intersection with childhood behaviors.

Similarly, future studies could move beyond Criterion A classification for a PTSD diagnosis required by DSM-5-TR (APA, 2022). Cumulative stress effects have been well

documented in current literature, including childhood adversities or little “t” traumas, on long-term psychological functioning (Copeland et al., 2018; Hamby et al., 2021). Research from Felitti et al. (1998) also supported the effect of ACEs on physical health outcomes. Additionally, other researchers have found the effect of cumulative stress exposure and impactful events exacerbates behavioral and emotional dysfunction (Evans et al., 2013). Retrospective research or longitudinal designs may better evaluate the long-term effects of this complex relationship and clarify the role of adverse experiences in symptom severity.

Future research could also address methodological limitations of the current study to improve its interpretability of findings. The instability of estimates impacted by high multicollinearity among predictors may consider analytical approaches to reduce unstable estimates. In the future, it may also be useful to collapse variables in underrepresented groups to better reflect the available sample and support more stable estimates. All of which may support in stronger significance and generalizability of future findings.

Additionally, future research may consider the unique relationship between socioeconomic and other factors on symptom presentation. A more detailed and defined measurement of trauma experience and SES would provide a specified history. For example, measures such as the *Life Events Checklist for DSM-5* (Weathers et al., 2013) and Childhood Trauma Questionnaire (Bernstein et al., 2003) may provide more contextually rich, comprehensive information on age of onset, frequency, duration, and severity of trauma experience. Similarly, SES defined by alternative factors, such as family income, education, and neighborhood characteristics, may provide more information about an individual’s upbringing. This amendment may also improve representation across SES groups, impacting precision of estimates and model fit. As defined in previous literature, the impact of traumatic stress and

development of future pathology may differ geographically based on the environmental effects of trauma exposure (Goldmann et al., 2011). These may be important variables to consider in light of the study's results.

Finally, future studies could benefit from amending the research design to a longitudinal study and/or mixed-methods research design to better understand the relationship between trauma exposure and disruptive behaviors. Longitudinal data would allow the researcher to explore socioeconomic factors, timing of trauma exposure, and ODD symptom severity improving stability of the model and strengthening causal inference. This design would also eliminate need for retrospective self-report assessment as the primary data source, allowing a more comprehensive picture of symptoms over time and their changes. Additionally, qualitative approaches can capture complexity and variability across human experiences, providing more contextual information about the true relationship (Fàbregues et al., 2022). Future studies could review variables of trauma exposure, socioeconomic background, and symptom severity with a full picture regarding individual experience. This methodology may also reveal alternative confounding factors, creating further opportunities for research in this area. By better understanding this dynamic and complex relationship, it may further selection of appropriate intervention and adaptation efforts with treating co-occurring childhood trauma and disruptive behaviors.

Conclusion

The current study contributed to existing literature to understand complex effects of childhood trauma, socioeconomic background, and ODD symptom severity. The finding of both childhood physical and sexual trauma have a greater likelihood at impacting higher ODD symptom severity further supported future research for cumulative and chronic effects of trauma

in child populations. It may also point to future research directions to explore preventative efforts and specificity in intervention-based treatment. The absence of socioeconomic effects on trauma, while unexpected, can provide alternative contexts to the complexity of this relationship and further evaluation of other confounding factors. Additionally, previously mentioned methodological considerations may necessitate careful interpretation of the current data, stressing importance of further research on these topics of interest.

The current research contributed to the field of psychology and growing literature on childhood trauma exposure, highlighting vulnerabilities and susceptibilities of trauma experience that may lead to future negative health and mental health outcomes. Therefore, it may be important when operating under a trauma-informed care model to evaluate for childhood trauma when conducting a comprehensive psychological assessment to rule out alternative diagnoses to inform treatment goals and trauma-informed intervention. Additionally, when choosing intervention strategies, it may be beneficial to consider complex presentations that may require a different approach (i.e., phase-oriented treatment).

Future research could address limitations identified in the current study by considering alternative explanations, using more comprehensive measures, and adopting a more robust study design to further evaluate the complex relationships among these variables. A longitudinal study design or mixed-methods approach may further research by exploring complex relationships among alternative sociocultural and environmental factors. This examination could provide valuable insights into treatment and prevention efforts, informing how to provide better and more comprehensive care to children who have experienced trauma.

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Appendices

Appendix A

Sample Script to Facebook Admins

Hi there, my name is Mikaela Davison and I'm a fourth-year doctoral student at Northwest University working on my dissertation. My current research focuses on childhood trauma and how it may relate to oppositional defiant disorder (ODD) symptoms.

I was wondering if I could have your permission to share my survey in this group. My hope is that the study will help us better understand ODD and how to support those who experience it.

I've checked for group rules and don't believe this would go against any, and I want to assure you that participant privacy is fully protected as no identifying information will be collected.

Please let me know if posting the survey would be okay.

Appendix B

Recruitment Post Example

Hello!

I am a fourth-year doctoral student at Northwest University researching childhood trauma, socioeconomic status, and disruptive behaviors. I am recruiting participants for my study for those interested in helping me learn more about my research topic. To participate, you have to be between the ages of 18-48, lived in the United States as a child, and have experienced at least one traumatic event from age 3-18 by an adult or person 5 years or older than you. If you are interested, please feel free to click on the link and fill out this quick survey.

LINK HERE

Thank you so much for viewing!



The poster is for a research study titled "Effect of Trauma on Oppositional Defiance Symptom Severity" at Northwest University. It features the university's logo and a large orange abstract shape in the background. The text is as follows:

Northwest UNIVERSITY

Effect of Trauma on
Oppositional Defiance
Symptom Severity

CALLING ALL
Participants

My name is Mikaela Davison, and I am a fourth-year doctoral student at Northwest University. I am conducting a research study that explores how childhood trauma and socioeconomic upbringing impact the presence of disruptive behaviors during childhood.

Criteria to Participate:

- Must be 18-48 years old
- Lived in the US as a child
- Experienced a childhood physical or sexual traumatic event from age 3-18 by an adult or person 5 years or older than you.

https://northwestpsych.az1.qualtrics.com/jfe/form/SV_bOgtktCCm04G8gm



Appendix C**Sample Advertisement on Prolific**

Effect of Trauma on Oppositional Defiance Symptom Severity

By Mikaela Davison

- \$0.20 /\$12.00/hr.
- 10-15 min
- Survey

To qualify for participation, you must be an adult age 18-48 located in the United States during childhood (from age 3-18). You must also have experienced a physical or sexual trauma from age 3-18 by an adult or person 5 years or older than you.

This study includes sensitive topics regarding trauma.

Appendix D

Informed Consent



Effect of Trauma on Oppositional Defiance Symptom Severity
Northwest University
College of Social and Behavioral Sciences

Consent Form

Welcome to the Effect of Trauma on Oppositional Defiance Symptom Severity, a research study that looks at the impact of trauma and socioeconomic status on Oppositional Defiance Symptom Severity during childhood and adolescence. This study is being conducted by Mikaela Davison, a doctoral candidate in Counseling Psychology at Northwest University.

To qualify for participation, you must be an adult age 18-48 located in the United States during childhood (before age 18). You must also have experienced a physical or sexual trauma from age 3-18 by an adult or person 5 years or older than you. Completion of this study typically takes approximately 10-15 minutes and is strictly anonymous. Your responses will not be linked to any identifying information about you. If you agree to participate in this study, you will complete questionnaires regarding demographic information, trauma history, and symptoms of oppositional defiant disorder. The survey includes items adapted from a validated measure; however, the adapted items are not used for diagnostic purposes, and study results are intended for research purposes only. Participants may be recruited from Prolific with a brief advertisement of the study description, estimated time commitment, compensation, and inclusion criteria, and redirected to Qualtrics if they meet criteria and agree to participate. Prolific provides participants with anonymous participant IDs to ensure information is not shared with the researcher. Participant IDs cannot be connected to personal identifiers. No identifying participant information is collected by Prolific or the Qualtrics survey. Survey data is not stored or retained on Prolific. Data will be collected through Qualtrics, which uses secure, encrypted servers to protect participant information. All data collection and submitted survey information will be password-encrypted and stored on a password-encrypted OneDrive. Data stored on SPSS software will be protected as it does not store, save, or use archived data. The researcher has total control of how data is handled, used, and stored. All data forms and information will be destroyed by 03/01/2030.

The Northwest University Institutional Review Board has approved the study. No deception is involved, and participation in this study poses minimal risk to participants, although some participants may experience emotional distress when answering questions about the personal experience of traumatic events. If the content of this questionnaire causes you significant distress, please contact the National Sexual Assault helpline at (800) 656-4673, the National Domestic Violence helpline at (800) 799-7233, and the crisis hotline at (800) 273-8255. Participants may receive financial incentive to participate with a compensation of \$0.20-\$0.30, which was chosen to remain modest and small to prevent avoidable coercion and undue influence. This study is voluntary, and you may elect to discontinue the questionnaire at any time and for any reason. Participants who do not fully complete the study will not receive financial compensation. Participation in this study will benefit the contribution of research on ODD and inform diagnostic practice, prevention, and support. This study aims to identify predisposing risk factors for its development. You may print this consent form for your records. By submitting the survey, you are giving permission to use your responses in this research study.

The results from this study will be utilized for dissertation, publication, and/or conference dissemination and may be presented within a variety of psychological forums (formal and informal).

If you have any questions about this study, please contact the principal researcher, Mikaela Davison at xxxxxxxx@northwestu.edu. If you have further questions, please contact my faculty advisor Dr. Brittany Speck at brittany.speck@northwestu.edu. You may also contact the Chair of the Northwest University IRB, Professor Cheri Goit, at cheri.goit@northwestu.edu or 425-889-5762.

Before beginning the survey, please read this consent form in full. If you understand all information contained in this form and agree to freely participate in this study, please click the "I Agree" button. You may exit the survey at any time.

Thank you for considering participation in this study.

Mikaela Davison
Doctoral Counseling Psychology Candidate
6710 108th Ave NE
Kirkland, WA 98033
xxxxxxx@northwestu.edu

Appendix E

Demographic information

Age. Fill in the blank: 18-48.

Gender. Drop down options: Male, Female, or Prefer Not to Answer.

Childhood Location. Drop down options: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, or Other

Race/Ethnicity. Drop down options: Hispanic/Latino origin, White/European American, Black/African American, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Aboriginal, Other

Education. Drop down options: Some high school, High school diploma/GED, Some college, Associate's degree and/or bachelor's degree, Professional degree, or Master's degree and/or Doctoral degree

Childhood Socioeconomic Status. Drop down options: Low, Medium, High

Appendix F

Adverse Childhood Experiences Questionnaire (ACE-Q)

(Felitti et al., 1998).

Scores are determined by adding one point to each item answered as “yes.” The total points reflects the ACE score.

1. Did a parent or other adult in the household often: Swear at you, insult you, put you down, or humiliate you? Or Act in a way that made you afraid that you might be physically hurt?

Yes No

2. Did a parent or other adult in the household often: Push, grab, slap, or throw something at you? Or Ever hit you so hard that you had marks or were injured?

Yes No

3. Did an adult or person at least 5 years older than you ever: Touch or fondle you or have you touch their body in a sexual way? Or Attempt or actually have oral, anal, or vaginal intercourse with you?

Yes No

4. Did you often feel that: No one in your family loved you or thought you were important or special? Or Your family didn't look out for each other, feel close to each other, or support each other?

Yes No

5. Did you often feel that: You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No

6. Were your parents ever separated or divorced?

Yes No

7. Were any of your parents or other adult caregivers: Often pushed, grabbed, slapped, or had something thrown at them? Or Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Yes No

8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

Yes No

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?

Yes No

10. Did a household member go to prison?

Yes No

Appendix G

Disruptive Behavior Rating Scale (DBRS)

As a child or adolescent, did you...?

	Not at all	Just a little	Pretty much	Very much
3. often argued with adults				
13. often feel spiteful or vindictive				
15. often blame others for mistakes or misbehavior				
17. often defy or refuse to comply with adult requests				
24. often feel angry or resentful				
26. often feel touchy or easily annoyed by others				
28. often lose your temper				
39. often deliberately annoy people				

Counting Symptoms. To determine if a child meets the symptom criteria for DSM IV diagnosis of Oppositional Defiant Disorder by the DBD Parent / Teacher Rating Scale, count the number of symptoms that are endorsed “pretty much” or “very much” by either parent or teacher in each of the following categories: Note that impairment and other criteria must be evaluated in addition to symptom counts.

Oppositional Defiant Disorder. A total of 4 or more items must be endorsed as “pretty much” or “very much” meets criteria for Oppositional Defiant Disorder. _____ Oppositional Defiant Disorder (items 3, 13, 15, 17, 24, 26, 28, 39).

Appendix H**ODD Symptom Severity**

(APA, 2022)

Symptoms will include (not included in survey question):

1. often loses temper
2. is often touchy or easily annoyed
3. is often angry or resentful
4. Often argues with authority figures or, for children and adolescents, with adults.
5. Often actively defies or refuses to comply with requests from authority figures or with rules.
6. Often deliberately annoys others.
7. Often blames others for his or her mistakes or misbehavior.
8. Has been spiteful or vindictive at least twice within the past 6 months.

If you checked any of these problems, how many areas of your life were affected from age 3-18? (i.e., at home, school, work, or with peers)

Drop down options: 1, 2, 3, 4

Key (not included in survey question)

Symptoms in 1 setting = mild

Symptoms in two settings = moderate

Symptoms in 3+ settings = severe