

THE RELATIONSHIP BETWEEN AUTISM SPECTRUM DISORDER AND CHILDHOOD ABUSE: A

SYSTEMATIC REVIEW

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ABSTRACT

In the United States, the prevalence of autism spectrum disorder (ASD) has increased since 2014. Children diagnosed with ASD are at an increased risk of childhood maltreatment. Research has shown that children with ASD are more likely to be involved and overrepresented within the child welfare system but are not more likely to experience abuse due to the possibility of communication difficulties. However, further studies have linked childhood abuse and the challenging behaviors of children with ASD. Children with ASD are at an increased risk of child sexual abuse, and this risk rises with the severity of the disorder. With the escalating awareness of this disorder and concerns regarding child abuse, researchers have noted a discernible increase in child fatalities.

Keywords: autism spectrum disorder, ASD, childhood maltreatment, Child Protective Services, Child Protective Investigations, child welfare, childhood abuse, abuse

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INTRODUCTION

The wild boy of Aveyron named Victor, a feral child found living in the woods in southern France, was believed to have suffered from autism spectrum disorder (ASD; Goldstein & Ozonoff, 2020). French physician Jean Itard studied Victor and reported that he demonstrated signs of ASD due to his failure to utilize language and other forms of communication. In 1867, Henry Maudsley described the physiology and pathology of the mind and its relation to insanity in children. His descriptions closely resembled the symptoms of ASD seen today with stubbornness, rigidity, oddness, and self-centered behaviors.

Autismus was a term Swiss psychiatrist Eugen Bleuler coined in 1911 to describe symptoms characterized by severe cases of schizophrenia (Evans, 2013). The word *autos* means self, and the suffix *ismos* denotes action or state (Goldstein & Ozonoff, 2020). This term is derived from the Greek language. Leo Kanner, an American psychiatrist, first introduced the modern term autism in 1943 in an article entitled “Autistic disturbances of affective contact” in the journal *Nervous Child* (Boucher, 2022; Goldstein & Ozonoff, 2020). This article was noteworthy in that it described infantile thought. Borrowed from the field of schizophrenia, Kanner described children with autism as withdrawn from their external environment and theorized that autism was a failure in development and distinct from schizophrenia (Evans, 2013; Goldstein & Ozonoff, 2020). According to Kanner, he believed autism was primarily caused by genetics and could potentially be predisposed by inappropriate parenting (Goldstein & Ozonoff, 2020). Based on current research, it is suggested that genetic and biological factors play a role in determining susceptibility to ASD. Autism spectrum disorder can be observed intergenerationally and across families (Goldstein & Ozonoff, 2020).

In 1944, Hans Asperger, a physician, proposed another autistic condition referred to as “autistic psychopathy,” known as Asperger syndrome (Goldstein & Ozonoff, 2020). A special

educator, Theodore Heller, described a condition where children would progress normally for several years and then severely regress in both functioning and development. Originally “dementia infantilis” or “disintegrative psychosis,” the DSM-IV-TR denoted it as childhood disintegrative disorder. In 1966, Andrea Rett observed symptoms in females with phases of normal development and forms of intellectual and motor deterioration similar to ASD, and referred to it as Rett disorder in the DSM-IV-TR. The DSM-5 aimed to eliminate pervasive developmental disorders and move ASD into the neurodevelopmental disorders chapter.

Autism spectrum disorder was thought of as a form of schizophrenia until the 1970s, as the first two editions of the DSM described children with ASD as having childhood schizophrenia (Goldstein & Ozonoff, 2020). The DSM-III first introduced the concept of ASD, which was referred to as infantile autism. Revisions entailed significant changes to the DSM-III that included descriptions of specific behaviors needed to provide a reliable diagnosis in the DSM-III-R. In the DSM-IV, Asperger’s disorder was included, and these changes remained consistent in the DSM-5; however, reorganization occurred with the DSM-5.

Diagnostic Criteria of Autism Spectrum Disorder

Autism spectrum disorder is characterized by persistent impairments in social interaction, deficits in verbal and nonverbal communication, and restricted and repetitive behavior patterns (Lordan, 2021). These symptoms can significantly impact an individual's ability to function in social, occupational, and other areas (American Psychiatric Association, 2022). The behavior patterns must be present during early development and cannot be attributed to intellectual developmental disorder or global developmental delay. The fundamental traits of ASD are present irrespective of an individual's unique characteristics (Lordan, 2021). The presentation of ASD may present differently in individuals within the two core psychopathological domains. Severity ratings were introduced with the DSM-5, which reflect the

severity of impairment of the ASD symptoms and the services needed (Hyman et al., 2020).

There are three levels of severity of impairment: level 1 (requiring support), level 2 (requiring substantial support), and level 3 (requiring very substantial support), with level 3 being the most severe. Despite advancements, no reliable biomarkers for ASD are available (Lordan, 2021).

Therefore, the diagnostic criteria for clinically diagnosing ASD are outlined in DSM-5-TR.

Differential Diagnosis

Differential diagnosis is when symptoms of one mental health disorder overlap with other conditions (Cleveland Clinic, 2024; First, 2013). Diagnosing a differential diagnosis in young children with developmental delay and ASD is particularly challenging (Cleveland Clinic, 2024). These challenges represent a significant presentation of comorbid disorders in these individuals (Goldstein & Ozonoff, 2020). Efforts have been made to differentiate ASD from broad language impairments, pragmatic language impairments, social anxiety, schizophrenia, obsessive-compulsive disorder, and coordination disorders. Other differential diagnoses with ASD include attention deficit hyperactivity disorder (ADHD), which is one of the most common comorbidities with ASD. Research conducted by Goldstein & Ozonoff (2020) found that ADHD symptoms present undifferentiated between ADHD only and individuals with ASD. The DSM-5 now allows for the diagnosis of ADHD concurrently with ASD, which brings to questions whether to include hyperactive, impulsive, and inattentive symptoms as part of the diagnostic criteria (Goldstein & Ozonoff, 2020).

Comorbidities

Psychiatric and neurodevelopmental comorbidities commonly occur in children with ASD (Al-Beltagi, 2021; Goldstein & Ozonoff, 2020). A study of over 2,500 children found that those with ASD and co-occurring disorders were more likely to be diagnosed later in life, which is a risk factor for poorer outcomes (Goldstein & Ozonoff, 2020). Research has indicated that

70% of children with ASD in a population-derived sample had at least one comorbidity, whereas 41% had multiple comorbidities. The most diagnosed comorbidities were social anxiety disorder, ADHD, oppositional defiant disorder, and fetal alcohol syndrome. An individual's age plays a factor in the risk for comorbidity, and comorbidity interviews have been developed to identify comorbid conditions.

Epidemiology of Autism Spectrum Disorder

The Centers for Disease Control and Prevention (CDC) data collected in 2020 from the Autism and Developmental Disabilities Monitoring (ADDM) network's 11 sites revealed that approximately one in 36 children who were eight-years-old were diagnosed with ASD (Maenner et al., 2023). These estimates are higher than the previous rate of 1 in 54 children collected in 2016 (American Psychiatric Association, 2023; Maenner et al., 2023). Several factors could explain the increase in the diagnosis of ASD (Hyman et al., 2020). One of the main reasons is the expansion of the criteria and the more comprehensive definition of pervasive developmental disorder with the introduction of the DSM-IV (Hyman et al., 2020). Additional reasons for the increased diagnosis of ASD include universal screening recommendations and greater public awareness of the disorder (Hyman et al., 2020). Finally, early intervention and services for children with ASD have become more accessible within schools (Hyman et al., 2020). To some extent, the increase in the prevalence of children with ASD may be attributed to diagnostic modifications (Hyman et al., 2020).

Autism spectrum disorder is more prevalent among boys than girls, with boys being four times more likely to receive a diagnosis of ASD than girls (Autism Speaks, 2023). Specifically, research indicates that four in 100 boys are diagnosed with ASD, whereas only one in 100 girls are diagnosed (Autism Speaks, 2023). Although ASD can affect children of all racial and ethnic backgrounds, White children (24.3) had a lower prevalence rate of ASD compared to Non-

Hispanic Black or African American, Hispanic, Asian or Pacific Islander (29.3, 31.6, and 33.4, respectively) children (Maenner et al., 2023). The prevalence of ASD was approximately 30% higher in 2020 among Asian, Black, and Hispanic children and 14.6% higher in White children than in 2018 (Maenner et al.). Historically, lower prevalence rates of ASD amongst Black, Hispanic, and Pacific Islander children were consistently reported when compared to White children, suggesting that ASD is being identified earlier due to improved screening, awareness, and access to services among previously underserved populations (Johns Hopkins Bloomberg School of Public Health, 2020; Maenner et al.).

Etiology of Autism Spectrum Disorder

Research has shown that the diagnosis of ASD in children is increasing (National Institute of Environmental Health Sciences, 2024). Its etiology is influenced by multiple factors, with both genetic and non-genetic factors contributing to its development (Sauer, 2021). Autism spectrum disorder is categorized into two main subtypes: syndromic and non-syndromic. Syndromic ASD is linked to chromosomal abnormalities or monogenic alterations. In comparison, non-syndromic is undefined due to its genetic heterogeneity (Sauer, 2021).

Genetics and Autism Spectrum Disorder

Autism spectrum disorder is highly heritable, and advancements in technology have improved the understanding of the complex genetics of ASD (Hyman et al., 2020; Sauer, 2021). Despite these advancements, the vital features of the genetics of ASD are not clearly understood. However, genetic testing can provide families with valuable information about the prognosis and recurrence risk of their loved ones, along with guidance on how to identify resources and support systems (Hyman et al., 2020). In addition, these families can also receive assistance in identifying and preventing any possible comorbidities and avoid ordering unnecessary assessments.

A thorough examination of the patient's biopsychosocial condition is conducted along with a medical assessment to determine the cause of ASD (Hyman et al., 2020). The medical assessment should include looking into the individual's exposure to teratogens and other factors that may increase the risk of ASD. This examination should also include growth measurements, including head circumference, dysmorphic features, skin manifestations of neurocutaneous disorders, and any neurologic abnormalities. Additionally, a genetic assessment is recommended as part of the investigation into the cause of ASD. Families should be aware that genetic testing does not provide a diagnosis of ASD. Instead, it provides insight and information into the risk of ASD as a diagnosis is made based on clinical symptoms.

Environmental Factors and Autism Spectrum Disorder

Environmental factors may contribute to the increased prevalence of ASD, such as prenatal exposure to certain medications, short time between pregnancies, multiple gestation, maternal obesity, gestational bleeding, diabetes, advanced paternal age, infections, and fevers (Hyman et al., 2020). Perinatal factors associated with an increased risk of ASD included fetal growth, preterm birth, low birth weight, intrapartum hypoxia, and neonatal encephalopathy. The environmental factors can either occur independently or affect the prenatal development of the brain or gene function in predisposed individuals. Studies that focus on ecological exposure are vital in identifying risk factors that can be modified to limit the exposure of neurotoxicants to pregnant women and children (Hyman et al., 2020).

Vaccines and Autism Spectrum Disorder

There is no scientific evidence linking vaccines, such as the measles-mumps-rubella vaccine, to an increased risk of ASD (Hyman et al., 2020). This includes using aluminum in vaccines, exposure to many vaccines, and mercury exposure to thimerosal-containing vaccines, as this has not been the case in the United States since 2001. Studies have shown that the

measles-mumps-rubella vaccine does not increase the risk of ASD in children who are already at an increased risk. Per the vaccination schedule, it is recommended that children with ASD should get vaccinated, as research argues the safety of vaccines. Concerns about vaccines can be perpetuated by media coverage and opponents; therefore, pediatric practice should include communicating vaccine safety.

Diagnosis and Early Intervention

Before the COVID-19 pandemic, approximately three out of four children were being evaluated and identified for ASD; however, this rate of evaluation and identification was disrupted (American Psychiatric Association, 2023). A reliable diagnosis of ASD can be provided by two years old; however, in the United States, the average age is five years (Autism Speaks, 2023). Black and Hispanic children are often diagnosed with ASD later than White children (Johns Hopkins Bloomberg School of Public Health, 2020). Delayed diagnosis can hinder effective early intervention, which on average begins at 4.7 years of age, as well as receiving necessary services (Autism Speaks, 2023). Children who are in lower-income households are diagnosed at an average age of 4.7 years compared to higher-income households at 5.2 years (Autism Speaks, 2023).

Although the prevalence rates of ASD are becoming equal amongst different races and ethnicities, disparities still exist in access to interventions for ethnic minorities compared to White children (Johns Hopkins Bloomberg School of Public Health, 2020). Research suggests that children diagnosed with ASD and who receive interventions during or before preschool age are more likely to experience positive effects due to the ongoing brain development that is occurring during this period (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2021). As a result, the chances of the treatment being effective in the

long term are increased (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2021).

Clinical Assessments

The early evaluation and intervention of ASD in children is fundamental to improving their developmental outcomes and adaptive skills (Okoye et al., 2023). As per the guidelines of the American Academy of Pediatrics (AAP), it is advised to consider screening for ASD symptoms at all pediatric visits when children reach 18 and 24 months of age.(Hyman et al., 2020). Children with ASD may not exhibit symptoms, and caregivers may not share concerns unless asked. Standardized screening tools can assist in identifying and reporting ASD symptoms observed by caregivers. Caregivers most commonly use parent-completed questionnaires as a screening tool.

Modified Checklist for Autism in Toddlers-Revised (M-CHAT-R)

The M-CHAT-R is a screening questionnaire tool that is the most widely used tool that can identify early signs of ASD in children between the ages of 16 and 30 months, even before concerns are raised by caregivers or professionals (Children's Hospital of Philadelphia Research Institute, 2022; Robins et al., 2014). There are concerns about the elevated degree of false positives.

The questionnaire was produced, and as a result, a follow-up interview was developed (Children's Hospital of Philadelphia Research Institute, 2022). The M-CHAT is a 23-item parent questionnaire measure that the AAP specifies for screening ASD. The M-CHAT-R has been verified for reliability and validity, and scoring is determined using receiver operating characteristic curves (Robins et al., 2014). Individuals with initial scores of ≥ 3 and follow-up scores of ≥ 2 are at higher risk of being diagnosed with ASD; confidence interval [95% CI: 0.92-0.98]. The M-CHAT-R has shown a higher rate of detecting ASD and reducing the number of

children necessitating follow-up in comparison to the M-CHAT. Compared to the national median age, children studied were diagnosed two years or younger (Robins et al., 2014).

Reynolds Intellectual Assessment Scales, Second Edition (RIAS-2)

The RIAS-2 is a tool used to measure intelligence, consisting of eight subsets, including general intelligence, verbal and nonverbal intelligence, memory, and processing speed, administered to individuals aged 3 to 94 years (McNicholas & Floyd, 2017). The RIAS-2 was normed on 2,154 individuals utilizing the 2012 census population. The alpha coefficients for subsets were consistently .80 or higher, regardless of age, gender, race, or ethnicity. The RIAS-2 found that the composites had higher reliability than their subsets (median across age groups = .92), with a few exceptions, such as the Nonverbal Intelligence Index and Composite Memory Index. Across age groups, the Intelligence Index coefficients ranged between .91 to .97, and the reliability was consistent across the Total Battery composite. The median test-retest reliability coefficients exceeded .80 in four age groups across 7 to 43 days, except for Nonverbal Memory and Speeded Picture Search.

One-factor solutions that represent general intelligence have shown a strong correlation between the two subsets of the Verbal Intelligence Index and the general factor with g-loading values at or above .70 (McNicholas & Floyd, 2017). The two subsets of the Nonverbal Intelligence Index g loadings were moderate, .50 to .69. The g loadings for the subsets of Composite Memory Index and Speeded Processing Index were weak, as low as .04 for Speeded Picture Search.

Behavior Rating Inventory of Executive Function-2 (BRIEF-2)

The BRIEF-2 is a rating scale of executive functioning for children and youth between 5 and 18-years-old (Gioia et al., 2019). There are 63 items in the parent and teacher forms across nine elements, including Inhibit, Self-Monitor, Shift, Emotional Control, Initiate, Working

Memory, Plan/Organize, Task Monitor, and Organization Materials. The self-report consists of 55 items that can be completed by children aged 11 to 18. It includes seven factors: Inhibit, Self-Monitoring, Shifting, Emotional Control, Task Completion, Working Memory, and Plan/Organize. Three validity scales are included to evaluate the respondent's response patterns. The child's behavior is assessed on a 3-point Likert scale.

The BRIEF-2 was normed with 3,603 children and youth. The coefficients for the parent forms ranged from .76 to .97, and scores ranged from .90 to .97 for index and composite (Gioia et al., 2019). The coefficients for teacher forms ranged from .88 to .98, with scores for index and composite ranging from .94 to .98. The coefficients for self-reports ranged from .84 to .97. When test-retests were completed three weeks apart, the results were stable, with correlations between .67 and .92. Correlations were above .80 for Index and composite scores. The correlation coefficients among the teachers varied between .76 and .89, and index and composite scores were above .80. Adolescent correlation coefficients ranged from .61 to .85, with both index and composite scores below .80.

Item-total correlations, intercorrelations, and confirmatory factor analysis were measured (Gioia et al., 2019). The results showed that the correlation coefficient range was between .44 and .77 for parents, .50 to .83 for teachers, and .44 to .74 for self-reports. The BRIEF-2 was compared to other measures to ensure validity, and evidence showed a moderate to strong relation.

Gilliam Autism Rating Scale, Third Edition (GARS-3)

The GARS-3 is a screening tool used to identify ASD in individuals between three and 22 years old (Samadi et al., 2022). A 58-item scale is divided into four categories: Restricted/Repetitive Behaviors (13 items), Social Interaction (14 items), Social Communication (9 items), and Emotional Responses (8 items). Two additional items are utilized for children with

verbal communication: Cognitive Style (7 items) and Maladaptive Speech (7 items). The child's behavior is evaluated on a four-point Likert scale. It is recommended to gather longer observations or more information from past observations in cases of uncertainty. The data on reliability and validity is derived from a normative sample of 1,859 individuals ages 3 to 22. The Cronbach's alpha coefficients for the Autism Index 4 and Autism Index 6 were .94 and .93, respectively, based on four or six subscales. Test-retest reliabilities ranged from .76 to .87 for the subscales, while the Autism Index 4 and Autism Index 6 showed a reliability of .90.

Clinical Interview

The clinical interview is a crucial assessment method that facilitates a meaningful exchange of personal information between the clinician and the patient in a relatively short period (Allen & Becker, 2019). This exchange is vital for accurately diagnosing and treating mental health disorders. Clinical interviews play a crucial role in conducting thorough assessments and intake procedures, and they are integral to the process of psychodiagnostic evaluation (Sommers-Flanagan et al., 2019). Clinicians need to be aware of the potential impact of noncredible clients on the reliability and validity of the clinical interview.

Autism Diagnostic Observation Schedule, Second Edition (ADOS-2)

The ADOS-2, widely recognized as "the gold standard," is an invaluable standardized observational assessment tool (University of California, San Francisco Center for ASD & NDDs, 2024). The tool plays a pivotal role in the diagnosis of autism spectrum disorder across a broad spectrum of ages (12 months to adult), developmental stages, and language proficiencies. While the ADOS-2 is an effective tool for diagnosing ASD, it is important to consider that it comes with the challenges of being costly and time-consuming to administer (Ji et al., 2023)

The assessment comprises of five modules carefully chosen based on the examinee's expressive language level, age, and the relevance of tasks to their interests and abilities

(McCrimmon & Rostad, 2014). The Toddler Module is specifically designed to support children between the ages of 12 to 30 months who do not use phrase speech. It encompasses 11 primary activities and 4 secondary tasks to promote early childhood development effectively. Children 31 months and older who do not consistently use phrase speech are eligible for Module 1. This module consists of 10 activities designed to support their communication development. Module 2 is for children with phrase speech but not verbally fluent and consists of 14 activities. Module 3 is intended for children and adolescents aged 16 or younger who are verbally fluent. This module includes a total of 14 engaging activities. Module 4 is for verbally fluent older adolescents and adults, consisting of 10 to 15 activities. Each module focuses on Social Affect and Restricted and Repetitive Behavior-coded items. This assessment provides structured activities and tasks that enable the examiner to directly observe behaviors essential for diagnosing ASD (Lurie Center, 2024). This approach ensures a thorough and accurate evaluation of the individual's assessment.

The ADOS-2 shows high reliability in the Social Affect (SA) domain (.87 - .92) and reasonable reliability in the Restricted and Repetitive Behaviors (RRB) domain (.51 - .66) for Modules 1 through 3 (McCrimmon & Rostad, 2014). These findings also apply to the Toddler Module, with a score of 0.88 for the SA domain and 0.50 for the RRB domain. The test-retest reliability showed strong correlations for SA, RRB, and overall scores from .64 to .88. Interrater reliability and agreement in diagnostic classification were high. The ADOS-2 demonstrated good predictive validity, especially in Modules 1 and 2, with sensitivity ranging from 60% to 95% and specificity ranging from 75% to 100% (McCrimmon & Rostad, 2014).

Child Autism Rating Scale, Second Edition (CARS-2)

The CARS-2 plays a crucial role as an assessment tool commonly utilized to identify and evaluate the severity of ASD in individuals ranging from 3 to 22 years old (Flowers et al., 2022; Ji

et al., 2023). Unlike the ADOS-2, the CARS-2 holds particular value in community institutions due to its ability to promptly identify individuals with ASD (Ji et al., 2023). There are two versions of the CARS-2: the CARS-2 Standard Version (CARS2-ST), designed for individuals aged 6 and older with an IQ of 70 or below, and the CARS-2 High Functioning Version (CARS2-HF), intended for individuals aged 6 and older with an IQ above 70 (Flowers et al., 2022).

Extensive reliability and validity tests have confirmed a high diagnostic consistency with the DSM-5. The CARS-2 consists of 15 questions that may be administered by professionals with ASD training (Flowers et al., 2022; Ji et al., 2023). These questions are asked during interviews with the primary caregiver, and the child is also directly observed (Ji et al., 2023). Each question is rated on a scale of 1 to 4, with 1 representing normal behavior for the corresponding age and 4 representing severely abnormal behavior for the corresponding age.

The total score is obtained by adding up the scores for each question (Ji et al., 2023). Scoring between 15 and 27.5 on the CARS2-HF suggests minimal to no symptoms of ASD while scoring between 28 and 33.5 indicates mild to moderate symptoms. A score of 34 or higher suggests severe symptoms of ASD (Flowers et al., 2022). Whereas scores less than 30 on the CARS-ST indicate no autism, scores between 30 and 36.5 indicate mild to moderate autism, and scores equal to or greater than 37 indicate severe autism.

Autism Diagnostic Interview, Revised (ADI-R)

The ADI-R involves a semi-structured interview conducted by a qualified professional and caregivers with a strong grasp of the individual's developmental history and behavioral patterns (Flowers et al., 2022). This is done to document the current symptoms being presented accurately. The instrument comprises 93 items aimed at facilitating a diagnosis of ASD. Language and communication; reciprocal social interactions; and restricted, repetitive, and stereotyped behaviors and interests are the three domains of functioning assessed by the ADI-R. The

instrument offers non-algorithmic items utilized for developing interventions; however, it does not contribute to making a diagnosis (Flowers et al., 2022).

The studies demonstrated strong test-retest reliability, with results ranging from .82 to .97 (Flowers et al., 2022). However, it's worth noting that the sample size was relatively small at $n = 53$, and the studies did not address internal consistency. The validity of the ADI-R cutoff scores plays a crucial role in accurately distinguishing Autism and Asperger's from other conditions such as pervasive development disorder, conduct disorder, intellectual disability, typical development, and language impairment.

Interventions

Treatment of ASD has been a controversial topic due to the condition's heterogeneity (Lordan, 2021). Various interventions such as educational practices, developmental therapies, and behavioral interventions are available to reduce the effects of the core features of ASD, minimize behavioral concerns that affect functioning, and maximize the individual's independence (Hyman et al., 2020; Lordan, 2021). These interventions include involving families, educators, and practitioners (Lordan, 2021). Treatment should be individualized and evidence-based, considering the child's age, strengths, and weaknesses (Hyman et al., 2020).

Applied Behavioral Analysis (ABA) is the most empirically supported intervention for ASD (Hyman et al., 2020). It applies interventions based on learning theory principles to improve behaviors. The principles of ABA suggest that reinforcing communication-related skills can modify ASD symptoms. The structure of ABA interventions may vary based on targeted goals and abilities identified by the child and family. Based on Piaget's theory of cognitive development, the developmental perspective emphasizes that children are proactive thinkers who progress through distinct cognitive stages, demonstrating their dynamic and evolving nature (Maurya & Khan, 2021). Children possess the ability to adapt to their environment

through the interconnected processes of assimilation and accommodation, ultimately leading to successful adaptation. Understanding developmental theory can guide the creation of interventions that prioritize the caregiver's responsiveness and support the child's social communication development (Hyman et al., 2020). It has been suggested that coaching to improve caregiver's responsiveness may help in reducing the core symptoms of ASD.

Education for children with ASD should be individualized in the least restrictive environment with support to address the symptoms of ASD and meet the Individualized Education Program goals (Hyman et al., 2020). Learning Experiences and Alternative Programs for Preschoolers and their Parents (LEAP) and Treatment and Education of Autistic and Communication Handicapped Children are two classroom-based intervention models to address the impact of ASD. Pediatricians play an important role in advocating for the child's educational needs. Educational programs should prioritize promoting language and social skills and preparing students for postsecondary education and employment opportunities. Those students who do not qualify for an Individualized Educational Plan may receive modifications and accommodations under Section 504. A functional impairment that impacts a child's ability to participate in a specific course is required to receive school-based services. The student's needs should be the focus when developing the Individualized Education Program.

Challenges to Care

Raising children with ASD presents distinctive obstacles and becomes more pronounced as the child gets older (Guan et al., 2022). Parents of ASD children have reported stressors related to child behavior and development, financial costs, strain on family relationships, uncertainty in the etiology and future, and accessing ASD-related resources. In addition, the child's parent or caregiver often felt misunderstood by healthcare professionals and family members.

The most challenging aspect of caring for children with ASD is the mental, physical, and financial strain it causes (Guan et al., 2022). Parents have reported experiencing a higher level of major depression and related symptoms of depression as a result. Parents of children with ASD are more likely to face challenges in caring for their children due to preexisting psychiatric disorders, such as schizophrenia, social phobia, and potential personality disorders. To manage potential stressors when caring for children with ASD, social support, ease of accessing ASD services, quality healthcare, and respite care for the child are vital. The family's access to ASD-related resources and cooperation among family members is crucial in raising a child with ASD and may strengthen the family relationship. Additional factors, including understanding adversity, affirming strengths, and spiritual beliefs, can positively contribute to raising a child with ASD.

Childhood Maltreatment Defined

The United States Federal Legislation outlines the minimum standards for State laws that define the acts or behaviors of a perpetrator of childhood abuse and neglect (Child Welfare Information Gateway, 2019b). The responsibility of implementing these minimum standards and defining child abuse and neglect lies with each State that accepts federal funding. The standards are located in two areas within the state statutory code: civil statutes, which define childhood abuse for individuals who are mandated reporters and for the intervention of child protection agencies and civil courts, and criminal laws, which define childhood abuse that is required for the arrest and prosecution of an offender. The definition of child abuse and neglect, as specified by the Child Abuse Prevention and Treatment Act (CAPTA), encompasses any “recent action or failure to act by a parent or caregiver that results in death, serious physical or emotional harm, sexual abuse or exploitation, or an imminent risk of such serious harm” (Child Welfare

Information Gateway, n.d., p. 2). Under this definition, a 'child' is an individual younger than 18-years-old and not a minor who is emancipated.

The States recognize four main categories of child maltreatment: neglect, physical abuse, sexual abuse, and emotional abuse (Child Welfare Information Gateway, n.d.). Physical abuse is defined as bodily injury that is nonaccidental and caused by a parent or caregiver that includes but is not limited to hitting, kicking, or burning (Child Welfare Information Gateway, 2018a). Sexual abuse is the coercion or forcing of a child or adolescent to participate in a sexual activity that includes sexual exploitation. Emotional abuse is the behaviors that cause emotional impairment or the lack of self-worth. Neglect is failing to protect from harm or provide for a child or adolescent with their basic needs. Although each type of child maltreatment can occur independently, they may also be found in combination with one another (Child Welfare Information Gateway, 2019b).

History of Child Maltreatment

Regardless of whether the abuse was sanctioned publicly or restricted to the private setting, childhood abuse has been a matter with a long-standing history (Braunold, 2023). Before 1875, interventions for the protection of children were rare but did occur (Myers, n.d.). This intervention occurred in the form of criminal prosecution and state laws being passed to address child maltreatment. During the American colonial period, laws acknowledged the removal of children from unsafe home environments due to childhood abuse, a problem with roots dating back to biblical times (Braunold, 2023). Despite these interventions, children were still not fully protected (Myers, n.d.).

During this period and until the mid-18th century, those in charge of caring for the poor also arranged protection and care for abused, neglected, and orphaned children (Myers, n.d.). Children in poverty were often placed into apprenticeships or institutionalized (Preibisch, n.d.).

An increase in immigration and unsafe working conditions led to a class of impoverished children and an increased risk of illness and injuries in manufacturing. Children were also at risk of delinquency whose mothers worked for extended hours.

It was not until 1874, when 9-year-old Mary Ellen Wilson, who resided with her guardians in New York City, was routinely beaten and neglected, that the organization of child protection emerged (Myers, n.d.). Etta Wheeler, a religious missionary who learned of Mary's condition, made multiple attempts to assist Mary by consulting with law enforcement and child-helping charities but refused to investigate because they had no authority to intervene. Wheeler eventually met with Henry Bergh, the founder of the American Society for the Prevention of Cruelty to Animals (ASPCA). Bergh spoke with his attorney, Elbridge Gerry, who prepared the necessary documents to assist Mary Ellen. A judge then ordered the removal of Mary Ellen. Then, in 1875, following her removal, the New York Society for the Prevention of Cruelty to Children was established by Bergh and Gerry after it was recognized by the men that there were no organizations, governmental or non-governmental, to safeguard children. By 1922, there were approximately 300 child protection societies (CPS) in the United States; however, there was little access to formal CPS organizations for children who lived in rural areas and some cities. In these circumstances, if protection was received, it was from family and neighbors. As non-governmental CPS spread nationwide, the first juvenile court was developed in 1899 in Chicago (Myers, n.d.). Although it was created to address delinquent children, juvenile courts had the authority to intervene in abuse and neglect cases.

In the early 20th century, there were calls to shift child protection from non-governmental organizations to government agencies (Myers, n.d.). In 1935, Douglas Falconer wrote that non-governmental CPS in many areas were unavailable to many children, or their services could have been better. Therefore, public agencies must take responsibility for

protecting children. The federal government played a limited role in developing child welfare policies and providing funding. In 1912, the federal Children's Bureau was created. Between 1921 and 1929, federal funding was provided for maternal and infant health services. The Great Depression was the catalyst that spurred the federal government to take a more active role in social welfare. President Roosevelt's economic New Deal in 1935 saved the nation from catastrophe. The Social Security Act, passed by Congress, provided Aid to Dependent Children and millions of dollars to support low-income families. An obscure provision within the Social Security Act authorized the cooperation of the Children's Bureau with State welfare agencies in establishing and extending services for the protection and care of neglected, dependent, homeless children in rural areas. This provision was a significant step for the federal government in the 1970s toward protecting children from maltreatment (Myers, n.d.).

Physicians started to have a crucial role in addressing abuse beginning in the 1960s (Myers, n.d.). Before this emerging interest, physicians lacked training and information from medical texts, which left them uninformed on this issue (Myers, n.d.). Child injuries and abusive child labor practices were not documented in US medical literature until 1946, despite the creation of Child Protective Services in America (Kempe et al., 1985). A pediatric radiologist, John Caffey, published a report in the American Journal of Roentgenology. He observed chronic subdural hematomas along with fractures of the legs or arms in six children (Kempe et al., 1985; Myers, n.d.). Although the direct link between the injuries and abuse was not stated, the observation of their traumatic origin sparked a strong interest in the medical field (Kempe et al., 1985; Myers, n.d.).

The concept of child abuse gained recognition by physicians in 1962 with the publication of 'The Battered-Child Syndrome' by pediatrician Henry Kempe et al., who raised awareness of child abuse on a national scale (Braunold, 2023; Kempe et al., 1985). This clinical condition

described severe physical abuse in young children, which was a noteworthy reason for childhood disabilities and death caused by a parent or foster parent (Kempe et al., 1985). Some medical and social work professionals also referred to it as unrecognized trauma. Kempe reported that if a child exhibited any of the following symptoms: bone fractures, subdural hematomas, soft tissue swelling or bruising of the skin, sudden death, failure to thrive, or if the historical explanation of the injury does not match the type of trauma that occurred, it may be indicative of abuse. However, physicians frequently overlooked or mishandled this condition if diagnosed due to the reluctance to notify the proper authorities. Although Woolley and Evans identified the physician's role in a 1955 article in recognizing abusive patterns, Kempe et al. emphasized that the responsibilities of a physician are to prevent, diagnose, and report child abuse (Braunold, 2023).

Before the 1960s, local media coverage of child abuse was sparse and only reported on incidents where children died due to beatings or high-profile cases (Myers, n.d.). After Kempe's publication, many national news outlets began citing "The Battered Child Syndrome," capturing the attention of professionals and the public. Amendments to the Social Security Act were made by Congress in 1962 that highlighted child protection and required a pledge from the states that child services would be available statewide by July 1, 1975.

In 1962, the same year as the publication of Kempe's article in addition to the amendments made to the Social Security Act that were historic, Kempe, along with the director of the Children's Division of the American Humane Association Vincent De Francis, a pioneer in child protection, attended the Children's Bureau meeting and recommended laws to be passed that required reports of suspicious childhood abuse be made by physicians to law enforcement and the child welfare system (Braunold, 2023; Myers, n.d.). As a result of Kempe's work, after

significant support from Federal and State policymakers, by 1967, laws were enacted in every state for a formal reporting system of suspected childhood abuse and neglect (Braunold, 2023).

During the 19th century, the foster care system, regarded as the best resolve, became crucial for child protection, offering a haven for those who could not remain safe in their homes (Myers, n.d.). Rather than being seen as a solution, the foster care system was considered problematic during the last quarter of the 20th century as critics argued that many children who are in out-of-home care get trapped. African American children, as well as children of color, are disproportionately represented in the foster care system.

In 1974, the United States Congress passed the CAPTA (Braunold, 2023). This legislation formed the national system of CPS and authorized the use of federal funds to improve states' response to child maltreatment. In 1978, Congress enacted the Indian Child Welfare Act as a response to the high percentage of Native American children being taken from their homes and placed in non-Indian foster homes (Myers, n.d.). This act aimed to reduce the number of children being removed from their homes. In response to the high number of African American children being placed in foster care and spending more time in the system than white children, Congress passed the Multiethnic Placement Act (MEPA) in 1994. This act aimed to prevent any delay or denial of adoption based solely on race (Myers, n.d.).

In 1980, the Adoption Assistance and Child Welfare Act was passed to preserve families, but it failed to reduce the number of children in foster care (Myers, n.d.). Consequently, social workers and judges left children unsafe in their homes. In 1997, Congress passed the Adoption and Safe Families Act (ASFA) to prioritize child safety by establishing timeframes for returning a child to their parents or terminating parental rights (Myers, n.d.).

Perpetrators of Child Maltreatment

A perpetrator is defined as someone who causes or knowingly allows child maltreatment to occur (Administration for Children and Families & Children's Bureau, 2021). In Fiscal Year (FY) 2021, there were 452,313 unique perpetrators of child maltreatment. It is worth noting that this number had decreased by 13.6% compared to 2017, when 537,316 perpetrators were identified across the United States. Among the perpetrators, 76.8% of these cases involved the child's parents as the perpetrators. At the same time, other relatives accounted for 6.8% of perpetrators of child maltreatment. Perpetrators with multiple relationships with the victim accounted for 4.2%, and 3.7% had "other".

Epidemiology of Maltreatment

Victims have been a concern in recent years; in 2018, 677,411 children were victims of child maltreatment, the highest rate of victimization reported, but it is noteworthy that victimization rates have decreased in the past five years (Administration for Children and Families & Children's Bureau, 2021). In FY2021, approximately 588,229 children in the United States were reported as victims of child abuse or neglect, which equates to 8.1 victims per 1,000 children aged 17-years and younger (Administration for Children and Families & Children's Bureau, 2021). This statistic is a positive sign that these rates have reduced by 10.9% compared to 2017.

The COVID-19 pandemic is considered a factor in the decrease in victimization (Administration for Children and Families & Children's Bureau, 2021). The reduction in reported cases can be attributed to the public health mandates issued to curb the spread of COVID-19. These measures included stay-at-home orders and school closures, which reduced the contact between children, support systems that are a line of protection for the children, and mandated reporters such as doctors and teachers who are most likely the reporters of child maltreatment (Braunold, 2023; Carter et al., 2021). However, this decrease in reports does not accurately

represent the incidents that occurred; some were not reported, as it is believed that the rates of victimization increased during the pandemic due to the environment it created (Carter et al., 2021). The increased likelihood of child maltreatment can be accredited to parental stress, lack of resources, parental mental health issues, and environmental factors that were experienced during the pandemic.

Compared to boys at 7.5 per 1,000 boys, girls have a higher rate of victimization at 8.7 per 1,000 girls in the population (Administration for Children and Families & Children's Bureau, 2021). There are documented racial and ethnic disparities in the child welfare system, leading to adverse outcomes for these children. (Administration for Children and Families, 2023; The Annie E. Casey Foundation, 2022). Although White children comprise the highest percentage of the population at 42.8%, American Indian or Alaska Native children experience victimization at a disproportionately higher rate of 15.2 per 1,000 children of the same race or ethnicity (Administration for Children and Families & Children's Bureau, 2021). African American children also experience victimization at a rate of 13.1 per 1,000, which is the second highest among their race or ethnicity.

Child maltreatment can have a devastating impact, with child fatality being the most severe consequence (Administration for Children and Families & Children's Bureau, 2021). In 2021, 1,829 children died due to child maltreatment, a rate of 2.46 per 100,000 children, a 7.7% increase from 2017. Children under three years old accounted for the highest rate at 66.2% of child deaths, with 45.6% being under one-year-old—a rate of 24.39 per 100,000 children of the same age group. As the child's age increases, the risk of a child fatality decreases. Neglect was involved in 77.7% of child fatalities, and physical abuse was present in 42.8% of cases, either independently or in conjunction with other forms of abuse (Samuel et al., 2023). Specifically,

children and adolescents with ASD have a 2 to 10 times higher risk of premature death than the general population (Guan et al., 2022).

Compared to girls at 2.15 per 100,000 girls, boys have a higher rate of child fatalities at 3.01 per 100,000 boys (Administration for Children and Families & Children's Bureau, 2021). More than 86.5% of child fatalities occur with White children (40.3%), African American children (33.5%), or Hispanic children (12.7%). African American children are more likely to die because of abuse compared to White children (Samuel et al., 2023). as they have a mortality rate of 5.6 per 100,000 versus a mortality rate of 1.94 White and 1.44 Hispanic per 100,000 children (Administration for Children and Families & Children's Bureau, 2021). The second highest rate of child deaths occurred among children of two or more races, with a rate of 4.40. American Indian and Alaska Native children had a child death rate of 2.57 per 100,000 children. Children and adolescents with ASD have a 2 to 10 times higher risk of premature death than the general population (Guan et al., 2022).

Children with Disabilities

Children with disabilities (CWDs) are a group of individuals who have varying needs and experiences throughout their lives (UN Special Representative of the Secretary-General on Violence Against Children, n.d.). These children are born with or develop impairments that cause difficulties in performing everyday activities. Data compiled reported that 4.3% of children in the United States were diagnosed with one or more emotional, behavioral, or developmental conditions between 2020 and 2021 (Kids Count Center, n.d.; Samuel et al., 2023). However, the number of CWDs in the United States is likely higher than reported because many children do not receive a clinical diagnostic assessment (American Psychological Association, 2016). Additionally, the clinical definition of a disability does not always match the legal definition,

contributing to underreporting. This lack of alignment between clinical and legal definitions can make it difficult to accurately identify and report the number of CWDs in the United States.

Research suggests that CWDs are at a higher risk of experiencing child maltreatment and severe harm due to their vulnerability from physical and emotional abuse as a young child to the risk of sexual abuse as they reach adolescence, further damaging the health and development of the child (Child Welfare Information Gateway, 2018b; McDonnell, 2019; Samuel et al., 2023; UN Special Representative of the Secretary-General on Violence Against Children, n.d.). The risk of child maltreatment is higher when the child has multiple diagnoses compared to those with a single diagnosis (American Psychological Association, 2016). Research has shown that children with ASD who received mental health services had increased rates of child maltreatment (McDonnell, 2019).

A study found that in 47% of cases where the allegations were substantiated for child maltreatment of a CWD, the disability was believed to be a contributor to the abuse (Samuel et al., 2023). A meta-analysis of 17 studies found that children with disabilities were four times more likely to be victims of physical, emotional, and sexual abuse compared to children without disabilities (American Psychological Association, 2016; Samuel et al., 2023). The increased risk of child maltreatment with CWDs is often a result of societal stigma toward the child's family and community (UN Special Representative of the Secretary-General on Violence Against Children, n.d.). The level of risk associated with child maltreatment can vary depending on the type of disability (American Psychological Association, 2016). For example, children diagnosed with ASD are at risk for physical neglect (Samuel et al., 2023). In comparison, CWDs with higher functioning are at greater risk of physical abuse.

Despite the interventions put in place to assist parents in navigating the care of children with ASD, the challenges can still cause stress on the caregiver (Guan et al., 2022). As a result,

children with ASD are at an increased risk of neglect, abuse, and physical harm (Guan et al., 2022). Data from school records suggests that children with ASD have higher involvement with the child welfare system (McDonnell, 2019). Furthermore, research has connected child welfare data with claims from Medicaid that children with ASD are at a higher risk of being placed in foster care (McDonnell, 2019).

Consequences of Child Maltreatment

Victims of abuse or neglect can experience long-term physical, psychological, and behavioral consequences that can last across their lifespans (Child Welfare Information Gateway, 2019a). Additionally, children and adolescents with ASD have twice the mortality rate of those without a comorbid condition (Guan et al., 2022). The effects of childhood abuse can occur immediately or years after the incident has occurred (Child Welfare Information Gateway, 2019a). Child maltreatment has far-reaching societal consequences that impact individuals and communities beyond the immediate effects on the child.

Consequences to one's physical health can be linked to physical abuse; however, any form of child maltreatment can cause physical consequences that are connected to an increased risk for long-term or impending physical health issues (Child Welfare Information Gateway, 2019a). Child abuse has also been linked to impediments associated with brain development and functioning. According to the Child Welfare Information Gateway (2019a), a study that was conducted found that children are at higher risk for being diagnosed with diabetes and malnutrition when they were physically abused and contracting hepatitis C and human immunodeficiency virus when they were victims of sexual abuse.

Childhood abuse has been connected to feelings of anxiety, seclusion, and cynicism that negatively impact the victim's education, self-esteem, relationships, and mental health (Child Welfare Information Gateway, 2019a). Research has found that there is a connection between

child abuse and the psychological consequences that impact executive functioning and cognitive skills, increase the risk for mental and emotional health issues, the development of attachment disorders, and posttraumatic stress disorder (PTSD). Victims of child abuse can experience behavioral complications well after the maltreatment that can be carried over to adulthood. This includes engaging in high-risk sexual behaviors, juvenile delinquency that leads to adult criminal behaviors, substance use disorders, and the individual being more likely to abuse their children.

Limited research exists regarding the correlation between exposure to maltreatment and its behavioral effects in children with ASD (McDonnell, 2019). This research is essential for practical assessment and treatment. Children with ASD who have experienced abuse exhibit higher levels of aggression, self-injury, trauma, and fear compared to those who have not been abused. It must be considered that these behaviors may increase the risk of child maltreatment rather than being a result of abuse.

These consequences do not only lie with the children who experience maltreatment, but also with society having to absorb the direct costs of hospitalization and foster care, the indirect cost of long-term care, criminal and juvenile justice systems, and the output loss experienced at school (Child Welfare Information Gateway, 2019a). According to a 2015 estimate developed by the Centers for Disease Control and Prevention (CDC), in the United States, nonfatal child maltreatment incidents cost \$831,000 per child across a lifetime (Child Welfare Information Gateway, 2019a). Fatalities due to child maltreatment cost \$16.6 million per child across a lifetime. In the United States, annual costs for nonfatal substantiated investigations are \$428, and it costs \$2 trillion to investigate nonfatal maltreatment cases, which includes tangible (juvenile justice, child welfare, and health care) and nontangible costs (pain, suffering, and grief) were included.

The primary purpose of this review is to thoroughly examine and synthesize the existing research conducted to investigate and answer the review question: What is the relationship between autism spectrum disorder and childhood abuse? In order to develop effective strategies for prevention, intervention, and rehabilitation services, this review aims to offer valuable insights into the various factors of ASD that contribute to child abuse by thoroughly examining the existing body of literature. Understanding these factors is crucial for addressing and mitigating the risks associated with child abuse in the context of ASD.

METHODS

The methods utilized in this systematic review were guided by the 16-item Preferred Reporting Items for Systematic Reviews and Meta-Analysis literature search extension (PRISMA-S; Rethlefsen et al., 2021). The PRISMA-S is a valuable supplement to the PRISMA Statement and its extensions. It offers a checklist that can be utilized to ensure the comprehensive reporting of each element of a search, thereby enhancing reproducibility. This approach utilizes an evidence-based reporting method that focuses on evaluating the effects of interventions, ensuring that the research findings are reliable and informative.

Search Strategy

An electronic search was conducted manually on October 10, 2023, and again on February 23, 2024, to obtain updates using PsychInfo, CINAHL, ERIC, Medline, and Psychology & Behavioral Sciences Collection to identify articles for inclusion in this review. The Boolean operator utilized to determine the articles was AB (children or adolescents or youth or child or teenager) AND AB (autism or asd or autism spectrum disorder or Asperger's or Asperger's syndrome or autistic disorder or Aspergers) AND AB (abuse or maltreatment). Any search terms must have been included in the abstract. The database search utilized Boolean stringing, which resulted in 558 articles returned.

Selection of Studies

An Excel® sheet was used to manage the databases' search findings. Articles retrieved must have been written in English, peer-reviewed, and conducted in the United States. Further review of articles exploring the relationship between ASD and abuse were deemed appropriate. Studies were included regardless of the date they were published. Additionally, age was not a factor; however, the study must have discussed the individual's experience of abuse as a child. A

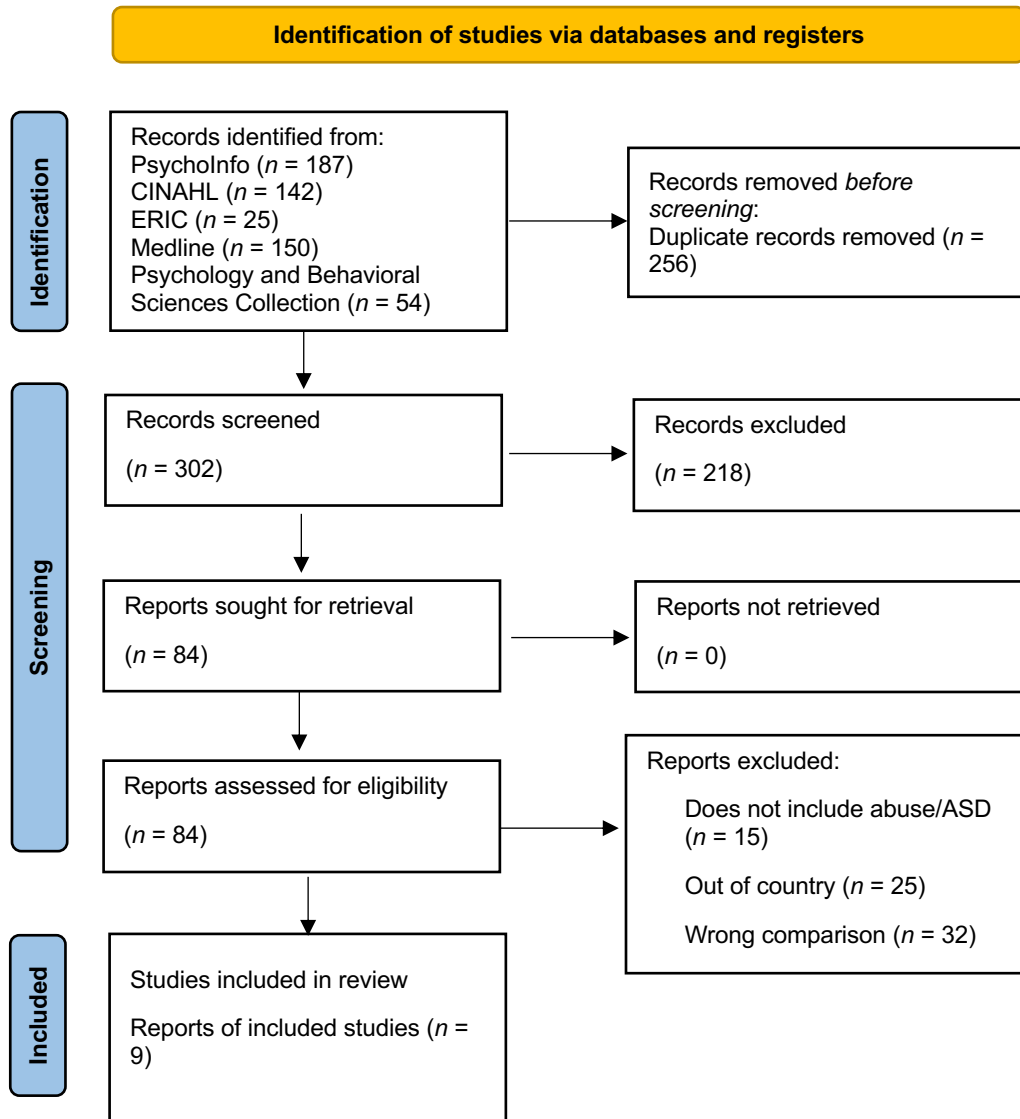
comprehensive search for the literature was conducted on September 14, 2023. No other filters were utilized to identify the studies.

Data Extraction

After removing duplicates from the 558 retrieved articles, 302 studies were screened by the abstract and title, and those that did not meet the initial criteria were excluded ($n = 218$). A thorough review of the 84 articles and, after review, nine articles were identified as being included in this research. A complete record of the selection methodology is documented in Figure 1, utilizing the PRISMA diagram. Appendix A, the PRISMA-S, displays the full extension for reporting literature searches in systematic reviews.

Figure 1:

PRISMA Flow Diagram*



*Note. Source: (Page et al., 2021).

NARRATIVE SYNTHESIS

Children diagnosed with ASD tend to experience more frequent, complex, and substantiated cases of maltreatment as compared to other maltreated children (McDonnell, 2019). They are also more likely to experience physical abuse from an immediate family member than other maltreated children without a developmental disability. A study was conducted on 4,988 children born from 1992 to 1998 and linked to the South Carolina Department of Social Services records from 2000 to 2016. Out of these children, 3,101 were part of a population-controlled group, and 315 children with ASD only were identified. The research found that over 20% of children with ASD-only were reported to child protective services for maltreatment. When compared to children with intellectual disability (ID) and ASD ID, children with ASD were found to be more likely to receive a report of physical abuse but not more likely to experience the abuse as children with ASD often have difficulties with communication, making it harder to determine if abuse has occurred. These communication difficulties may also affect the investigation response (McDonnell, 2019).

A study conducted by Walters et al. (2013) examined the occurrence of maltreatment among adjudicated adolescent sexual offenders with ASD and juvenile sexual offenders without ASD. The study found no statistically significant differences in the severity level of abuse experienced by the two samples when utilizing the Childhood Trauma Questionnaire (CTQ), consistent with prior sexual offender texts. When compared to adolescent sexual offenders without ASD, who reported experiencing little to no emotional abuse, juvenile sexual offenders with ASD reported a history of low to moderate emotional abuse.

Overrepresented Population

A study by Hall-Lande et al. (2015) found that there was an overrepresentation of children with ASD in the Minnesota Department of Human Services (DHS) data system,

suggesting that families of children with ASD are utilizing social services and CPS. When looking at the Department of Human Services system, the number of children with ASD and other disabilities doubles, which remains consistent when examining involvement with CPS (Hall-Lande et al., 2015). This research, supported by a 2018 study conducted in Tennessee, analyzed a dataset of 24,306 children born in 2008 (Fisher et al., 2019). Out of these children, 387 were diagnosed with ASD (Fisher et al., 2019). Fisher and colleagues found that children with ASD are 17.3% or two and one-half times more likely to be referred to the Tennessee Child Abuse Hotline. While these findings indicate the overrepresentation of children with ASD reported to the Tennessee Child Abuse Hotline, there is a significantly smaller number of children with ASD recommended for further action. This lower number raises the question of whether children with ASD are being over-reported to the Child Abuse Hotline or if the screening process for this population differs.

The overrepresentation could be attributed to various factors. First, children with ASD are involved in multiple systems, increasing the likelihood of maltreatment being identified or suspected by professionals mandated to report abuse (Fisher et al., 2019). It is important to note that the challenges associated with behaviors or self-injury that often derive from ASD can be misunderstood as symptoms of abuse, especially by those who are not familiar with the condition. As a result, more referrals may be made for screening, but many may eventually be screened out as they do not require further action. Lastly, those who are responsible for the decision-making within the Tennessee Child Abuse Hotline may view the allegations or the referral differently for children with ASD. This argument supports existing research, which suggests that child welfare workers are inadequately trained to identify and support children with disabilities.

Hall-Lande et al. (2015) argue that children with ASD are at a higher risk of experiencing physical abuse, which suggests that children with disabilities are more susceptible to child maltreatment compared to children without disabilities. Previous research has examined how the characteristics of a child's disability affect the risk of child maltreatment (Hall-Lande et al., 2015). There is a correlation between a child's challenging behaviors and an increased likelihood of physical abuse, as ASD is a highly stressful condition, and it can be difficult to manage and accommodate effectively. Several potential factors may contribute to the overrepresentation of physical abuse, which includes families experiencing high-stress levels and difficulty implementing effective discipline methods, as standard discipline techniques may not be effective for children with ASD. As a result, the physical discipline techniques used to correct a child's behavior may escalate to abuse.

It has been argued that studies conducted on children with ASD who have been institutionalized and experienced child maltreatment may present an overrepresentation, as it is probable for a child with both ASD and abuse experiences to be institutionalized compared to children with only one of their conditions (Mandell et al., 2005). The studies conducted thus far have utilized institutionalized samples, which may not be representative of ASD children due to the majority being treated within the community setting.

Between 1997 and 2003, 9,313 children participated in a national evaluation (Mandell et al., 2005). Of these, 156 children were diagnosed with ASD and Asperger's disorders and treated in a community mental health setting (Mandell et al., 2005). It is estimated that around 20% of children were subjected to physical abuse. In comparison, one in six children was sexually abused. Although the rates of abuse are lower than previous research on institutionalized children, it is slightly lower than those served and higher than those in special education services.

Child Sexual Abuse

Additionally, children with ASD are at a significantly higher risk of experiencing child sexual abuse (CSA) and child maltreatment than children without ASD, as reported by the Centers for Disease Control and Prevention (Goldberg Edelson, 2023). Individuals with ASD can face difficulty comprehending sexuality, relationships, physical boundaries, and privacy despite having received sexual education at school (Chianese et al., 2021). In research conducted by Graham Holmes et al. (2020), 298 children were studied with ASD, and 6.4% of these children had a history of CSA, similar to the estimated 6.1% of the United States general population. Adults with ASD who provided self-reports were linked to high odds of females being victims of CSA (Graham Holmes et al., 2020)

An epidemiological study of over 50,000 children aged 5-18 found that children with ASD are 3.4 times more at risk of abuse and 3.14 times more likely to experience CSA than children without ASD. (Goldberg Edelson, 2023). Research has shown that female children with ASD are more likely to experience substantiated maltreatment than their male counterparts (Fisher et al., 2019). Compared to males, females are more likely to experience child sexual abuse (CSA) with no gender differences for physical abuse. This finding suggests that female children with ASD are a highly vulnerable population (Fisher et al., 2019).

The severity of the disorder appears to predict the level of risk. Researchers conducted a longitudinal study on 4,500 twin youths to explore the relationship between ASD and CSA (Goldberg Edelson, 2023). It was found that there is a higher risk of CSA with each standard deviation unit increase in ASD screening scores (Goldberg Edelson, 2023). For males, the increase was 74%, and for females, the increase was 42% per standard deviation unit, suggesting children with an increased number of ASD traits are at an increased risk of CSA (Goldberg Edelson, 2023). Difficulties in understanding the social and emotional prompts,

difficulties in communication skills, deficits in the Theory of Mind, and the need for social support can be concerns that increase the risk of CSA for children with ASD (Goldberg Edelson, 2023).

Child Fatalities

There is limited research that focuses on fatalities that are attributed to child maltreatment (Samuel et al., 2023). Since the early 2000s, child maltreatment-related deaths in the United States involving children with ASD have increased (Guan et al., 2022). This increase could be accredited to the increased awareness of ASD and its prevalence (Guan et al., 2022). Samuel et al. (2023) conducted a review of 106 cases involving child maltreatment-related deaths. Physical abuse accounted for 74.5% of child deaths, while sexual abuse accounted for 0.9% (Samuel et al., 2023). In 33% of the cases, ASD was identified as the child's disability (Samuel et al., 2023). Children with ASD, who are males (90.4%), have a higher probability of being victims of homicide. The majority of individuals who committed homicide were parents (Guan et al., 2022).

Table 1

Characteristics of Study Subjects in Reviewed Studies

Authors	Study Methods	Demographics	Sample Size	Outcomes	Notes
Chianese et al. (2021)	<p>Nine studies were included: Four studies: observational Five studies: experimental</p> <p>The observational studies included three cross-sectional surveys and one concurrent parallel mixed methods study.</p> <p>Experimental studies included one case study, a quasi-experimental, two one-group pilot studies, and a randomized control trial with a waitlist.</p>	Age range: 5 - 43 years	Studies ranged from 1 to 212 participants	Individuals with ASD possess substantially less knowledge about sexual-related knowledge, both in terms of their actual understanding ($p < .001$) and how they perceive it ($p = .01$), lower sexual awareness ($p < .01$), and more frequent occurrence of sexual victimization ($p < .01$)	Assessment Tools utilized: Self-report, Genital Body Parts Knowledge, Personal Safety Questionnaire, Child Knowledge of Car, Traffic, Fire, and Gun Safety, What If Situations Test, Good Touch/Good Person, SexKen, Knowledge of Sexual Health Questionnaire, Sexual Experiences Survey, - Victimization Version, Sexual Awareness Questionnaire, Parent report, Child Safety Quiz, Sexual Behavior Scale, Child Behavior Checklist, Sex Problems Scale, Injury Risk Behavior, Communication, Assertiveness and Relationship Questionnaire
Fisher et al. (2019)	Case-control	<p>Children born in 2006.</p> <p>Median income: \$39,635 - \$91,146</p> <p>More males in the ASD cases compared to control children (82.7% vs 50.7%, $X^2 = 66.9$, $p < 0.01$)</p> <p>Race: No significant difference in Caucasians</p>	<p>Age: 10-years-old</p> <p>Sample Size: $n = 24,306$ ASD: $n = 387$ Control Children: $n = 23,919$</p> <p>Were available, and 39% had an IQ below 70.</p>	<p>Compared to the control group, more of the ASD children were referred to the Tennessee (TN) Child Abuse Hotline ($X^2 = 52.5$, $p < 0.001$; odds ratio (OR), 2.63; 95% confidence interval (CI), 2.00-3.42).</p> <p>ASD children were more likely to be screened out for further action than the</p>	

compared to other races for ASD cases relative to the control group. (80.8% vs 78.2%, $\chi^2 = 1.21$, ns).

The IQ data for 71% of ASD children

control group, relative to the total number of TN Child Abuse Hotline referrals ($\chi^2 = 59.9$, $p < 0.001$; OR, 0.15; 95% CI, 0.09-0.26).

ASD referrals were more likely to be screened for additional action than the control group, relative to the entire ASD and control population ($\chi^2 = 3.15$, $p = 0.055$; OR, 0.54; 95% CI, .28-1.01).

For cases that were screened in for both ASD and the control group, both were equally as likely to have substantiated maltreatment ($\chi^2 = 0.1$, $p = 0.62$; OR, 1.15; 95% CI, 0.65 - 1.86)

Females with ASD were more likely than males with ASD to have substantiated maltreatment (1.9%; $\chi^2 = 27.3$, $p < 0.001$; OR, 0.12; 95% CI, 0.04-0.36)

There was no significant difference in substantiated maltreatment related to race/ethnicity (50% other race vs. 50% Caucasian; $\chi^2 = 2.6$, $p = 0.80$; OR, 0.87; 95% CI, 0.30-2.52)

For ASD children with ID with an IQ above 70 compared to those with an IQ below 70, there was no difference in substantiated maltreatment

				($X^2 = 0.68, p = 0.98$; OR, 1.01; 95% CI, 0.64-1.58)	
Goldberg Edelson (2023)	Review	N/A	N/A	N/A	N/A
Guan et al. (2022)	Archival Study	<p>Age: $n = \leq 20$</p> <p>Male victims: $n = 90.4\%$</p> <p>Perpetrators: Parents: $n = 63.5\%$ Moms/stepmothers: $n = 28.8\%$ Fathers/stepfather: $n = 25\%$ Grandparents: $n = 5.8\%$</p> <p>Age of parent perpetrators: $n = 37.9 \pm 11.1$ years</p> <p>Perpetrator diagnosis of mental illness: $n = 4$</p>	$n = 52$	<p>Methods of Homicide: Gunshot: $n = 23\%$ Drowning: $n = 19.2\%$ Suffocation/strangulation/asphyxiation: $n = 19.2\%$</p>	
Hall-Lande et al. (2015)	Secondary Analysis	<p>Characteristics of children involved with CPS and diagnosed with ASD are as follows:</p> <p>Children enrolled in public school between 2004-2005 and were involved in a child maltreatment case between 2000 - 2009.</p> <p>Race/Ethnicity: White, not Hispanic ($z = 2.9$)</p> <p>Alaskan Native ($z = -2.3$)</p> <p>African Americans ($z = -3.3$)</p>	$n = 9,536$	<p>Children diagnosed with ASD had higher representation in the child welfare system than others diagnosed with other disabilities ($X^2 = 6994.792, p = .00$)</p> <p>It is indicated that there is an association between child maltreatment and having a disability ($X^2 = 193.572, p = .00$)</p>	

		<p>Asian or Pacific Islander ($z = -4.1$)</p> <p>Age: Children aged 6-10 are considerably underrepresented ($z = -3.7$).</p> <p>Children aged 11 - 15 were considerably overrepresented ($z = 2.1$).</p> <p>Children aged 16 - 20 were considerably overrepresentation ($z = 2.9$).</p> <p>Children who qualified for free meals were underrepresented ($z = -.23$).</p> <p>Children who qualified for free or reduced meals were overrepresented ($z = 3.6$)</p>			
Graham Holmes et al. (2020)	Survey Method is not randomized	<p>Age: 12 - 18</p> <p>Phase 1: boys $n = 157$</p> <p>Girls: $n = 25$</p> <p>Phase 2: girls $n = 116$</p>	$n = 298$	<p>Approximately 6.4% of children had a history of sexual abuse ($X^2 [1 n = 298] = 3.634, p = 0.057, v = 0.111$) or IF ($X^2 [3, n = 298] = 7.300, p = 0.063 v = 0.157$)</p>	<p>Assessment: Sexual Behavior Inventory</p> <p>Social Responsiveness Scale-Second Edition (SRS-2),</p> <p>Parent Action Inventory</p>
Mandell et al. (2005)	Secondary Analysis	Age: 12 - 18	$n = 156$	<p>$n = 108$ reported no abuse</p> <p>$n = 22$ reported physical abuse</p> <p>$n = 19$ reported sexual abuse only</p> <p>$n = 7$ physical abuse and sexual abuse</p>	

McDonald et al. (2019)	Randomized Control	ASD-only: $n = 316$ ASD+ID: $n = 291$ ID-only: $n = 1,280$ PC: $n = 2,101$	$n = 4,988$	ASD-only had more cases of alleged abuse than control. (mean difference = 0.90, $p = .0002$)
		Birth Year: 1992, 1994, 1996, and 1998		The ASD-only group (mean difference = 0.90, $p = .002$) had a higher number of cases and substantiations related to physical neglect when compared to the control group (mean difference for ASD-only = 1.89, $p = .002$)
		Males = 4,988		ASD-only (mean difference = 1.26, $p = .014$) had more substantiated perpetrators across cases when compared to the controls.
				More cases with ASD-only (mean difference = 0.98, $p = 0.36$) had an immediate family member as the perpetrator.
Samuel et al. (2023)	Archival Study	Victims: Age = 0 - 17 Age 1 - 4 = 36.8% Mean age = 5.9 years with a standard deviation of 4.47 years Males: $n = 74.6\%$ Non-Hispanic = 79.2% White = 63.7% Black = 28.4% Perpetrators: $n = 121$ Female = 52.1%	$n = 106$	Statistically significant relationship between ASD and fatalities because of neglect ($p = 0.050$) Deaths because of abuse and/or neglect were correlated to the relationship of the perpetrator/victim in all children with disabilities (0.032 and 0.007, respectively).

	<p>Mean age = 34.3 years, standard deviation 11.2 years</p> <p>White = 55.7% Black = 27.8</p> <p>Relationship to Victim: Biological mothers = 35.2%</p> <p>Cause of Death Physical abuse = 33%</p> <p>Common Disabilities: ASD = 33%</p> <p>Developmental disability = 29.2%</p> <p>Other physical disability = 29.2%</p>			
Walters et al. (2013)	<p>Age: 15 to 20 years</p> <p>Ethnicity: Caucasian = 54% African American = 35% Hispanic = 10%</p> <p>Gender: Male = 43</p>	<i>n</i> = 43	The mean rank is 23.16 among the ASD group, which is within the severe/extreme range	<p>ASD was diagnosed before the study.</p> <p>The Childhood Trauma Questionnaire (CTQ) and the Beck Depression Inventory, Second Edition (BDI-II) were utilized during the study.</p>

DISCUSSION

The research has shown that children with ASD are at an increased risk of child maltreatment and are overrepresented within the child welfare system (Hall-Lande et al., 2015). Various factors contribute to this increase, including the difficulties and stressors by caregivers of children with ASD, children with ASD being involved in multiple systems, ineffective discipline methods implemented by the caregiver, behaviors of the child viewed as child maltreatment, and the stressors experienced by families following the child's diagnosis (Hall-Lande et al., 2015; Fisher et al., 2019). Females were more likely to have cases of substantive maltreatment and childhood sexual abuse (Fisher et al., 2019). As the severity of ASD increases, so does the severity of child maltreatment. Males with ASD were more likely than females with ASD to die because of child maltreatment (Samuel et al., 2023).

Despite this increase in child maltreatment and overrepresentation, cases needing further action or children who experienced abuse were considerably lower (Fisher et al., 2019). Some of the reasons for this drop include the child's insufficient communication abilities, differing perspectives on the reports among decision-makers, and inadequate training of child welfare staff (Fisher et al., 2019; McDonnell, 2019). Children who were perpetrators of sexual assault diagnosed with ASD and were victims of child maltreatment compared to perpetrators without ASD showed no significant difference in the severity of abuse (Goldberg Edelson, 2023).

Limitations of CPS data only reflect reported maltreatment incidents (McDonnell et al., 2019). McDonnell et al. (2019) reported that children with subtle ASD may be underrepresented as they were not reassessed for ASD after the age of 8. Additionally, it was unclear if the delay was caused by previous maltreatment or if the abuse was purposeful (Samuel, 2023). The study conducted by Chianese (2021) did not have a control or comparison group. Moreover, the behavioral outcomes were reported through questionnaires instead of observational analyses.

The measurements of parent-child communication related to sex topics did not specify the components that were discussed, the frequency of the conversation, and the depth and accuracy of the material. The study had small sample sizes and limited the generalization of results. Utilizing older children in the study conducted by Fisher et al. (2019) limited the experiences with maltreatment within the child protection age as child maltreatment differs with age. The inclusion characteristics for the study were not well defined as the control group may have contained children with other disabilities who were at risk of child maltreatment. Additionally, there may have been children in the ASD group who had another mental health diagnosis that increased the risk of child maltreatment. There was also an inability to determine who the reporter of abuse was and the types of abuse reported.

Additional limitations included selection bias with journalists deemed “newsworthy” (Guan et al., 2022). Although the factors were discussed within the media as to the reasons for the child's death, there was no context for additional factors within the home environment that led to the death. Search terms that were utilized may have missed cases involving child fatalities. It is not worth noting that Hall-Lande (2015) used cross-sectional data, meaning that the results do not imply causation. Type 1 error rates may have increased due to the use of multiple chi squares within the sample. Additionally, the results may be impacted because the study covers one academic year.

Graham Holmes et al. (2020) did not use a population-based sample, and the surveys given to parents were not validated. It is unclear if the caregiver was underreported due to inquiring if the questionnaire was completed alone or with input from others. Mandell et al. (2005) did not utilize standardized instruments in efforts to provide a diagnosis, and information related to abuse was not collected; therefore, variables related to abuse were not available to analyze.

CONCLUSION

The definition of ASD has changed since 1943, when Leo Kanner first described it. The American Psychiatric Association (2022) defines ASD as a condition characterized by persistent difficulties in communication and social interaction, as well as restrictive and repetitive patterns of behavior of varying severity. It has been challenging to differentiate ASD from other mental health disorders due to their overlapping symptoms (Cleveland Clinic, 2024; Goldstein & Ozonoff, 2020). Children who are diagnosed with ASD commonly have one or more co-occurring disorders that may be diagnosed later in life, increasing their risk of poorer outcomes (Goldstein & Ozonoff, 2020).

Due to various factors, the rate of children diagnosed with ASD has increased compared to previous estimates (American Psychiatric Association, 2023; Maenner et al., 2023). Boys are more likely than girls to be diagnosed with ASD (Autism Speaks, 2023). Various etiological factors, genetic and non-genetic factors, contribute to the development of ASD (Sauer, 2021). Therefore, early evaluation and intervention are crucial to ensuring positive outcomes. Standardized instruments such as the M-CHAT-R, RIAS-2, BRIEF-2, GARS-3, clinical interview, ADOS-2, CARS-2, and ADI-R assist in identifying and reporting ASD symptoms. Various treatments and interventions that are individualized and evidence-based should be utilized, considering the child's age, strengths, and weaknesses to reduce the effects of ASD (Hyman et al., 2020). Raising a child with autism can be challenging as they grow older due to the stress related to their behavior and development, financial costs, strain on family relationships, uncertainty in etiology and future, and accessing autism-related resources (Guan et al., 2022).

In the United States, Federal Legislation outlines the minimum standards that define abuse and neglect, and the responsibility of implementing falls within the states to implement these standards (Child Welfare Information Gateway, 2019b). Four main categories of abuse and

neglect are recognized: neglect, physical abuse, sexual abuse, and emotional abuse (Child Welfare Information Gateway, n.d.). Throughout history, there has been a longstanding issue of childhood abuse, and laws protecting children have evolved in response to this issue (Braunold, 2023). In the 20th century, there were calls to shift child protection from non-governmental to governmental agencies. In the 20th century, there were calls to shift child protection from non-governmental to governmental agencies due to the limited availability of non-governmental organizations, especially in rural areas (Myers, n.d.). The federal government's involvement in child welfare began in 1912, but it was not until the Great Depression that it actively participated in the social welfare system. During this time following the Great Depression, various policies, acts, and bureaus were established to assist in the protection of children.

Parents are the largest population of perpetrators of childhood maltreatment (Administration for Children and Families & Children's Bureau, 2021). In 2021, the number of perpetrators of childhood maltreatment and victims have decreased compared to 2017. One factor attributed to this decrease is the COVID-19 pandemic that mandated stay-at-home orders that reduced children's contact with mandated reporters (Braunold, 2023; Carter et al., 2021). However, it is believed that the rate of victimization during this time increased but was not reported due to the stress, lack of resources, parental mental health, and environmental factors that were experienced as a result of the pandemic (Carter et al., 2021). Girls have a higher rate of victimization compared to boys, and although White children comprise the largest population, American Indian or Alaskan Native children experience the highest rate of victimization (Administration for Children and Families & Children's Bureau, 2021).

Child deaths as a result of child maltreatment have increased, and boys are at a higher risk when compared to girls (Administration for Children and Families & Children's Bureau, 2021). Children with ASD are 2 to 10 times more likely to die of child maltreatment compared to

the general population (Guan et al., 2022). Children with disabilities are at an increased risk of child maltreatment and severe harm due to their vulnerability (Child Welfare Information Gateway, 2018b; McDonnell, 2019; Samuel et al., 2023; UN Special Representative of the Secretary-General on Violence Against Children, n.d.). Children with ASD who receive mental health services have a higher rate of child maltreatment (McDonnell, 2019). Research has shown that a contributor to child maltreatment is the child's disability (Samuel et al., 2023). The risk of child maltreatment is dependent on the type of disability (American Psychological Association, 2016). Children with ASD are at a higher risk of child maltreatment, including physical harm and involvement with the child welfare system, and may be placed in foster care as a result (Guan et al., 2022; McDonnell et al., 2019). Victims can experience long-term physical, psychological, and behavioral consequences that can span across a lifespan as a result of child maltreatment (Child Welfare Information Gateway, 2019a). Additionally, societal consequences impact communities beyond the effects on the children.

This research aimed to answer the question: What is the relationship between autism spectrum disorder and childhood abuse? Research has shown that children diagnosed with ASD experience more frequent, complex, and substantiated cases of maltreatment compared to other maltreated children, with the perpetrator commonly being an immediate family member (McDonnell, 2019). However, a study conducted in South Carolina found that children with ASD are more likely to receive a report of physical abuse and not more likely to experience the abuse, and this may be due to children with ASD experiencing difficulties with communication, making it harder to make an outcry of child maltreatment. When compared to adolescent sexual offenders without ASD, there was no statistically significant difference in the severity of emotional abuse (Walters et al., 2013).

.A study conducted in Minnesota suggested that there was an overrepresentation of children with ASD in the DHS system, indicating the utilization of social services by the families of children with ASD, which was supported by research in Tennessee that suggested that children diagnosed with ASD were more likely to be referred to the state's abuse hotline (Fisher et al., 2019; Hall-Lande et al., 2015). Multiple factors contributed to the overrepresentation, such as children with ASD being involved in various services and the increased likelihood of child maltreatment being identified and reported by professionals (Fisher et al., 2019).

Children with ASD are more vulnerable to physical abuse due to the stressful conditions and challenging behaviors they may exhibit (Hall-Lande et al., 2015). As a result, there is an overrepresentation of institutionalization; however, this may not be an accurate representation of the population of children with ASD as the majority are treated within their community (Mandell et al., 2005). In a study of those children treated in a community setting, 20% were physically abused, and 1 out of 6 were sexually abused (Mandell et al., 2005). Research has argued that females are at higher risk of being victims of CSA, which suggests that female children with ASD are a highly vulnerable population (Fisher et al., 2019).

Child fatalities involving children with ASD have increased since 2000, which could be accredited to the increased awareness of ASD (Guan et al., 2022). Physical abuse accounted for the largest amount of child deaths, and males had a higher probability of being victims of a homicide (Samuel et al., 2023). The majority of perpetrators were parents (Guan et al., 2022)..

According to the research, there is a relationship between ASD and childhood maltreatment, as there is an increased risk of maltreatment when a child has been diagnosed with ASD. This research is essential as there are indications that the diagnosis of ASD and reports made to CPS have increased. By identifying the risk factors that cause child maltreatment of children with ASD, early interventions can be acknowledged and provided to

families and children with ASD to reduce the risk of childhood maltreatment by correcting or modifying the behaviors of the child and engaging parents in services that address methods for caring for a child with ASD and providing respite care.

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APPENDIX A

Table 2*Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Literature Search Reporting (PRISMA-S)*

Section/Topic	Number	Checklist Item	Locations Reported
Information Sources and Methods			
Database name	1	Name each database searched, stating the platform for each.	p. 29
Multi-database searching	2	If databases were searched simultaneously on a single platform, state the name of the platform, listing all of the databases searched.	N/A
Study registries	3	List any study registries searched	N/A
Online resources and browsing	4	Describe any online or print source purposefully searched or browsed (e.g., tables of contents, print conference proceedings, websites) and how this was done.	
Citation searching	5	Indicate whether cited references or citing references were examined and describe any methods used for locating cited/citing references (e.g., browsing reference lists, using a citation index, setting up email alerts for references citing included studies).	N/A
Contacts	6	Indicate whether cited	N/A
Other methods	7	Describe any additional information sources or search methods used.	N/A
Search Strategies			
Full search strategies	8	Include the search strategies for each database and information source, copied and pasted exactly as run.	p. 29
Limits and restrictions	9	Specify that no limits were used, or describe any limits or restrictions applied to a search (e.g., date or time period, language, study design) and provide justification for their use.	p. 29
Search filters	10	Indicate whether published search filters were used (as originally designed or modified), and if so, cite the filter(s) used.	N/A
Prior work	11	Indicate when search strategies from other literature reviews were adapted or reused for a substantive part or all of the search, citing the previous review(s).	N/A
Updates	12	Report the methods used to update the search(es) (e.g., rerunning searches, email alerts).	p. 29
Dates of searches	13	For each search strategy, provide the date when the last search occurred.	p. 29
Peer Review			
Peer review	14	Describe any search peer review process.	N/A
Managing Records			
Total records	15	Document the total number of records identified from each database and other information sources.	p. 30
Duplication	16	Describe the processes and any software used to deduplicate records from multiple database searches and other information sources.	p. 30

Note. Source: (Rethlefsen et al., 2020)

APPENDIX B

CURRICULUM VITAE

Deric J. Valdez, MSW

DSW Candidate

Department of Social Work
Angelo State University
San Angelo, TX 76904

Education

B.B.A. in Management Information Systems, December 2006
Angelo State University

M.S.W in Social Work, August 2021
Angelo State University

Professional Post-Baccalaureate and Post Master's Social Work Experience

Full-Time Post Baccalaureate Experience

Texas Department of Family and Protective Services, Child Protective Services
Investigator, April 2008 to August 2012

Texas Department of Family and Protective Services, Child Protective Services
Investigations Supervisor, August 2012 to February 2019

Texas Department of Family and Protective Services, Child Protective Services
Regional Director Assistant, February 2019 to August 2022

Full-Time Post Master's Experience

Texas Department of Family and Protective Services, The Office of Consumer Affairs
Office of Consumer Affairs Specialist, August 2022 to current

Community Service

Professional Service in the Community

Domestic Violence Coalition, San Angelo, TX, Member, October 2016 to August 2022

Community Resource Coordination Group, Member, October 2016 to August 2022

West Texas Human Trafficking Coalition, San Angelo, TX, Member, February 2019 to August 2022

Sexual Assault Coalition, El Paso, TX, Member, October 2019 to August 2022

Service to Professional Organizations

Open Arms Rape Crisis Center and LGBT+ Services, San Angelo, Texas, Member of the Board of Directors, August 2016 to December 2019

Shannon Supportive Services, San Angelo, TX, Member of the Board of Directors, August 2022 to current

Service to Child Protective Services

Child Protective Investigations, Supervisor Advisor, March 2017 to August 2022

Child Protective Investigations/Services, Member, Peer Support, September 2021 to current

Texas Department of Family and Protective Services, IMPACT Improvement Team, Office of Community Affairs

Academic Awards

Student Awards

Outstanding Graduate Student, Social Work Department at Angelo State University, May 2020

Student of the Year, Social Work Department at Angelo State University, May 2021

Practicum, Internship, and Supervised Experience

D.S.W. Internship in Clinical Social Work

Social Work Profession and Introduction to Field

Supervisor Thomas Starkey, Ph.D., LCSW

Angelo State University, Department of Sociology and Social Work

D.S.W. Practicum in Clinical Social Work

Social Work History and Social Welfare

Supervisor Jason Aleman, Ph.D., M.S.W.

Angelo State University, Department of Sociology and Social Work

M.S.W Internships

Advanced Direct Practice Internship in Social Work

Child Protective Services, San Angelo, Texas, June 2020 to December 2020

Advanced Direct Practice Internship in Social Work

Child Protective Services, San Angelo, TX, January 2021 to August 2021

Areas of Teaching and Professional Interest

Child Development

Child Abuse and Neglect

Social Welfare Policy
Children with Autism Spectrum Disorder