THROUGH THEIR EYES: UNRAVELING THE EXPERIENCES AND THERAPEUTIC NEEDS OF CHILDREN WITH AUTISM SPECTRUM CONDITION WHO HAVE EXPERIENCED PHYSICAL ABUSE

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Abstract

This thesis used mixed-methods to comprehensively assess the prevalence, needs, and lived experiences of physical abuse in children with autism spectrum condition (ASC). The research employed a sequential explanatory design utilising both quantitative and qualitative methods. In the initial phase, an evidence synthesis was performed to assess interventions for children who experienced physical abuse and interventions for children with ASC. This phase found that there is a need for more rigorous studies on interventions for children who experienced physical abuse and on interventions for children with ASC. Additionally, this phase has important implications on intervention components and theoretical approaches which could be used to inform a future intervention. The next phase included two quantitative surveys which aimed to assess the prevalence and associated characteristics of ACEs in the ASC population. Participants for this phase included adults with ASC and parents, guardians, and caregivers of children with ASC. The quantitative phase found a high prevalence of abuse within the ASC community, as well as specific behaviorural characteristics which are associated with autistic individuals who experienced abuse. The third phase aimed to explore the lived experiences of childhood physical abuse in the ASC community using Interpretative Phenomenological Analysis (IPA). For this, two qualitative surveys were given to adults with ASC who experienced physical abuse and to parents, guardians and caregivers of children with ASC who experienced physical abuse. The findings from this phase highlighted specific symptomology and experiences which can be used to inform future interventions. The findings from all phases were used to inform a logic model and create specific recommendations to inform future interventions and research.

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of this thesis has been submitted as part of any other academic award. This thesis has not been presented to any other education institutions in the United Kingdom or overseas.

Any view expressed in this thesis are those of the author and in no way represent those of the university.

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Table of Contents

List of Tables and figures:

List of Appendices:

Chapter one: Introduction

Setting the Scene for an Investigation into the Experiences and Therapeutic Needs of Autistic Children Who Experienced Physical Abuse

1.1 Background

Autism Spectrum Condition (ASC) is a neurodevelopmental condition often identified and diagnosed in childhood (Lord et al., 2018). As with other neurodevelopmental conditions, ASC is often referred to as a form of neurodivergence (Shah et al., 2022). Neurodivergence refers to a subset of individuals whose neurocognitive functions and neurodevelopmental differences are distinguished from societal patterns (Shah et al., 2022). In contrast, individuals whose neurocognitive functions and neurodevelopmental differences fall in line with societal patterns are referred to as neurotypical (Shah et al., 2022). As with other neurodiverse conditions, characteristics of ASC vary from person to person, though ASC is identified through repetitive sensory-motor behaviours and difficulties in social communication (American Psychiatric Association, 2013; Hodges et al., 2020; Lord et al., 2018). Difficulties associated with ASC vary in severity, reflecting a wide range of characteristics that autistic individuals may exhibit (i.e., having impacted verbal skills, or daily living skills; Hodges et al., 2020; Lord et al., 2018). Severity of ASC characteristics are classified in the Diagnostic Statistical Manual Fifth edition (2013), through corresponding levels (DSM-V). Specifically, level one expresses that individuals require support, level two conveys that an individual requires substantial support, and level three explains that an individual requires very substantial support (American Psychiatric Association, 2013). However, despite the inclusion in the DSM-V, assessment of ASC differs across countries and some individuals are not provided with a level of severity, as these were only recently introduced in DSM-V (Hodges et al., 2020). As such, exploration and assessment of ASC can cause difficulty as there is no universally accepted characterisation of ASC. Additionally, it is important to note that the language used in conceptualising ASC is current under review. While discussing autism, many individuals and researchers reflect the notion that autism should be viewed in a more positive way, to reduce the stigma surrounding autism (Wright et al., 2020). In doing so, the term ‘disorder’ has been replaced with the term ‘condition’, now referring to Autism Spectrum Disorder as Autism Spectrum Condition (Dwyer et al., 2022). Additionally, when referring to challenges associated with autism, the term ‘differences’ is preferred over ‘deficits’ (Wright et al., 2020). Furthermore, individuals within the autism community tend to prefer identity-first language (e.g. autistic persons), though there are others who still prefer person-first language (e.g. persons with autism; Dwyer, 2022; Taboas et al., 2023). As there is still debate surrounding identity-first and person-first language, this thesis will utilise both interchangeably. In addition, given the preferences of autistic individuals and current research surrounding autism, this thesis will utilise the terminology ‘differences’ and Autism Spectrum Condition (ASC).

For children with ASC, associated characteristics can extend beyond diagnostic symptomology including characteristics such as maladaptive behaviours (e.g. self-injurious behaviours, aggression towards others, and meltdown behaviours), motor difficulties, global developmental delays, and intellectual deficits (Lord et al., 2018). Moreover, as with many other neurodevelopmental conditions, individuals with ASC often have co-morbid diagnoses including high levels of anxiety, depression, attention-deficit/hyperactive disorder, or neurological disorders (e.g. epilepsy; Ghanizadeh, 2012; Kerns et al., 2015; Lord et al., 2020). Thus, such complexity can impact avenues for treatments and interventions. For example, early intervention(s) provided to young children, are seen as a core pillar for treatment for ASC, yet there is no evidence assessing exactly what treatment should be provided (Lord et al., 2020). Despite a recent boom in ASC research, there is an exhaustive list of treatments utilised each targeting separate outcomes (e.g. speech and language therapy, occupational therapy, applied behavioural analysis therapy, cognitive behavioural therapy, etc.; DeFilippis & Wagner, 2018). Therefore, providing individualised support for all characteristics associated with ASC would include numerous treatments, high cost, and time. Further adding to the complexity of care, individuals with ASC are more likely to experience Adverse Childhood Experiences, resulting in poor mental and physical well-being (Boullier & Blair, 2018). As such, it is first, important to understand ACEs and their impact.

1.1.2 Adverse Childhood Experiences and the Impact on Childhood wellbeing

Adverse childhood experiences (ACEs) encompass an extensive range of potentially traumatic experiences which occur in childhood (Boullier & Blair, 2018; Copeland et al., 2007; Felitti et al., 1998). These experiences include both, community level experiences such as exposure to community violence, and household dysfunctions such as, exposure to various forms of abuse, parental substance abuse, mental illness, parental incarceration, experiences of divorce, and domestic violence (Boullier & Blair, 2018; Copeland et al. 2007; Felitti et al., 1998; Finkelhor et al., 2015). As discussed, such experiences have been found to impact on individuals physical and mental health.

ACEs are recognised as critical determinants in an individual's overall health and wellbeing, having been found to have lasting negative implications on both (Boullier & Blair, 2018; Finkelhor et al., 2015). Though, ACEs are now seen to impact a range of mental and physical health outcomes, the original study on ACEs was created through observing childhood experiences of obese patients (Felliti et al., 1998). It was found that there was a link between traumatic events experienced in childhood and obesity (Felliti et al., 1998). As research on ACEs expanded, links between a myriad of physical health consequences (i.e. heart disease, risky health behaviours, cancer, asthma) and mental health consequences (i.e. anxiety, depression, suicide attempts, and certain developmental disorders) have emerged (Boullier & Blair, 2018; Finkelhor, 2018; Tink et al., 2017). In addition, ACE exposure has been associated with a number of other societal and individual factors which have been found to impact wellbeing. For example, individuals who have reported a higher number of ACE exposure are more likely to not finish school, live below poverty levels, and be unemployed (Metzler et al., 2016). The negative implications of ACE exposure are linked to nearly every facet of life, therefore understanding their impact in all populations is imperative for preventive care, predictive research, and treatment. Often, ACEs are commonly explored within the neurotypical population, however recent research has found an important link between ACE exposure and ASC (Berg et al., 2016; Hoover, 2015; Hoover & Kaufman, 2018). Thus, it is important for this link between ACE exposure and ASCs to be explored.

1.1.3 ACEs and ASC

Despite the negative association found with ACEs and wellbeing, ACEs are not well understood in the ASC population, with the link between ACEs and ASC only recently being explored (Berg et al., 2016; Hoover, 2015; Hoover & Kaufman, 2018). Studies have found that autistic individuals are twice as likely to experience four or more ACEs than their neurotypical peers (Berg et al., 2016; Hoover, 2015; Hoover & Kaufman, 2018; Kerns et al., 2015; Mehtar & Mukaddes, 2011). In particular, children with ASC are more likely to experience bullying, neglect, and abuse (Andrzejewski et al., 2023; Dodds, 2020; Hoover & Kaufman, 2018). Children and adolescents with ASC exposed to traumatic events may also be more vulnerable to experiencing internalising behaviours leading to co-occurring mental health issues, such as stress, anxiety, or depression (Andrzejewski et al., 2023; Kerns et al., 2015). Additionally, ASC severity has been positively associated with exposure to traumatic experiences; in that those who are more impacted by ASC symptoms are more likely to experience traumatic events (Kerns et al., 2015; Berg et al., 2016). This link has been attributed to a number of factors associated with ASC.

First, children with ASC can have a more difficult time communicating their experiences or conveying their emotions or thoughts (Mehtar & Mukaddes, 2011). Due to these difficulties in communication, it can be more difficult to detect traumatic experiences until later in life, if at all (Mehtar & Mukaddes, 2011; Stack & Lucyshyn, 2018). Second, individuals with ASC can already experience an increased number of stressors related to their neurodivergence (Kerns et al., 2015). These stressors can relate to everyday life, including social confusion, sensory sensitivity, or even punishment for behaviours related to their ASC (Kerns et al., 2015). These daily stressors can cause higher co-morbidity of psychiatric disorders in individuals with ASC, which may lead to exacerbating emotional dysregulation (Kerns et al., 2015; Mazefsky et al., 2013). This inability to regulate emotions can, therefore, lead to a conditioning to traumatic processes, resulting in daily experiences to be potentially traumatic (Kerns et al., 2015). For example, social situations can provide additional stress for children with ASC as they have social difficulties. Therefore, a child with ASC could find certain social situations to be traumatic as they have an underlying difficulty in social situations and less of an ability to regulate their emotions in that situation. In addition, characteristics associated with ASC (e.g. social difficulties, sensory behaviours, and maladaptive behaviours) can lead to children with ASC to being more vulnerable to experiencing traumatic events, such as peer bullying as peers can view these characteristics as odd or deviating from the norm (Hoover & Kaufman, 2018). Despite this link, the impact of trauma and ACEs within the ASC population is not well researched. As such, it is important to understand the experiences associated with ACES (e.g. experiences of abuse) and their implications on children with ASC. One such experience which has not been well explored in children with ASC, is physical abuse. This will now be considered below.

1.1.4 Physical abuse and ASC

Though abuse rarely happens in isolation, research commonly focuses on childhood sexual abuse, or sexual violence (e.g., Carbajal et al., 2020; Cazalis et al., 2022; Dike et al., 2023; Kenny et al., 2021). This focus on childhood sexual abuse becomes problematic as the impact of other forms of abuse go unknown, providing difficulty in understanding their nuanced implications for treatment. Specifically, physical abuse has not been well explored, particularly in the autistic population (Gibbs et al., 2021). Physical abuse is defined as any instances in which a person is violent or aggressive towards another person resulting in injury (i.e. hitting, shaking, drowning, and burning another individual), as well as any instance where an individual contrives, or intentionally causes, symptoms of an illness in another person (National Society of Prevention of Cruelty to Children, 2022). Research on physical abuse has often been associated with trauma studies which observe the Posttraumatic Stress Disorder (PTSD) symptoms as consequences and indicators of physical abuse (Prock & Folger, 2018; Mehtar & Mukaddes, 2011). However, relying on PTSD criteria to assess abuse in the ASC population creates a myriad of challenges as children with ASC often do not meet the criteria for PTSD leaving them more vulnerable to experiencing unrecognised physical abuse (Mehtar & Mukaddes, 2011). As such, the nuanced impact of physical abuse is not well explored in children with ASC, leading to less researched treatment implications.

Typically, PTSD symptoms are seen as indicators that abuse is occurring in children, however for children with ASC these indicators are often overlooked as they are common characteristics seen within ASC (De Young & Landolt, 2018; Prock & Folger, 2018; Mehtar & Mukaddes, 2011). For example, overlapping characteristics include externalising behavioural symptoms (e.g. aggression, meltdown behaviours, and self-injurious behaviours), internalising behaviours (e.g. anxiety, and depression), and even social difficulties (Stravropoulos et al., 2018). Subsequently, the overlapping symptomatology seen between ASC and PTSD creates difficulty in assessing trauma in autistic populations, in turn, leaving those with ASC without proper care. Moreover, assessing current treatment for this population is challenging as treatment which is available is often tailored for neurotypical individuals (Mehtar & Mukaddes, 2011; Dodds, 2020). Consequently, more research is needed on assessing the impact of ACEs and abuse in this population, to help facilitate better treatment tailored to the childhood ASC population. Thus, this section will now turn to discussing implementation science which is used in the design, development, and evaluation of evidence-based interventions.

1.1.5 Implementation science

In intervention research and creation, there has been a noticeable gap between research on interventions and implementation of interventions (Bauer & Kirchner, 2020; Handley et al., 2016; Lobb & Colditz, 2013). In this, evidence which is gathered to design, develop and evaluate an intervention takes around two decades to implement in practice, with only around half of these interventions being implemented (Bauer & Kirchner, 2020). Due to the extended timeframe and scarcity of intervention implementation , many areas of health care may beleft without evidence-based interventions. Evidence-based interventions are vital to treating populations as they are created using the best evidence base for creating and providing effective care (Li et al., 2019). As the gap between research and implementation of evidence-based interventions is so vast, a new field of research has emerged. Implementation science is a field which aims to bridge the gap between research and implementation of interventions (Bauer & Kirchner, 2020; Handley et al., 2016; Lobb & Colditz, 2013). In bridging this gap, implementation science seeks to understand and optimise the process of adopting, integrating and sustaining evidence-based interventions (Bauer & Kirchner, 2020; Handley et al., 2016; Shelton et al., 2018). One key factor implementation science has identified in understanding this research to implementation gap is through translation.

Translation refers to the translation of knowledge to practice and has been deemed as one of the most important steps in intervention creation (Wensing & Grol, 2019). Often, a lack of clear evidence is a major barrier to this translation (Bauer &

Kirchner., 2020; Handley et al., 2016). This lack of clear evidence in translation becomes an issue as practitioners may misunderstand the information given or miss implementation of important steps in an intervention, thus decreasing the effectiveness of the intervention (Fernandez et al., 2019). As such, implementation science emphasises the importance of clear translatable knowledge to create effective interventions. In doing so, implementation science includes a systematic approach to creating a clear evidence base. First, it is important to gather sufficient evidence and identify behaviours which contribute to the research gap (Fernandez et al., 2019; Handley et al., 2016). Then, researchers must identify key theoretical bases for the behaviour change (Fernandez et al., 2019; Handley et al., 2016). Next, researchers should choose components which target those key behaviours (Handley et al., 2016). In setting out clear and consistent evidence researchers can mitigate the research to practice gap, providing individuals with the best care possible. This thesis aligns with implementation science as it sets forth clear evidence from each phase of research for children with ASC who experienced physical abuse which can be used to inform a future tailored intervention for this population.

This chapter will now present the goals of these thesis, outlining phase one, two, and three, as well as providing an overview of what this thesis will do, and lastly, a section reviewing the information given in this chapter.

1.2 Scope and goals of this thesis

This thesis aims to gather in-depth insight into the prevalence, experiences and needs of physical abuse within children with ASC. The research question addressed is as follows: What are the experiences and therapeutic needs of children with ASC who have experienced physical abuse?

In addressing the above question, this thesis will consist of three phases consisting of;

- Phase one: Evidence synthesis of current interventions for children with ASC and children who experience physical abuse, in aim of determining effectiveness, assessing outcome areas, and determining successful intervention components.
- Phase two: quantitative surveys assessing autistic adults and parents, guardians, and caregivers of children with ASC, in aim of determining the

prevalence of abuse, ACEs and other related characteristics within the ASC population.

- Phase three: qualitative surveys gaining in-depth insight into the experiences of autistic children who experienced ASC, through the lens of autistic adults who experienced childhood physical abuse, and parents, guardians, and caregivers of children with ASC who experienced physical abuse, in aim of providing in-depth information on the experiences and therapeutic needs of autistic children who experience physical abuse.

In completing the above, this thesis will contribute to knowledge by drawing out best practice, knowledge and evidence in order to translate actionable recommendations for the development of tailored interventions. This thesis had a lack of capacity for development of an intervention. However, the findings from this thesis are based within implementation science principles in order to provide a basis for potential further research aimed at developing and evaluating a tailored intervention.

Within this thesis, the next chapter will outline its' philosophical positioning. Research was completed using a phenomenological lens, focusing on experiences, with a critical realist epistemology. Chapter Three will then outline the methodology of this thesis, focusing on the three phases involved, and the implications of these three phases. The fourth chapter will present an evidence synthesis on interventions for children who experienced physical abuse and children with ASC. In this chapter, a systematic review and narrative synthesis will provide information on current interventions for children who experienced physical abuse, and scoping review will provide evidence on current interventions for children with ASC. The fifth chapter will present primary findings on ACE prevalence within the ASC population, through quantitative analysis. After, qualitative primary data on the experiences of those with ASC who experienced physical abuse and of parents, guardians, and caregivers will be presented through Interpretative Phenomenological Analysis. The last chapter of this thesis will then provide implications and recommendations gathered from the primary data and the evidence synthesis.

This chapter introduced both ASC and ACEs, in addition to the potential health implications these concepts have on individuals. Specifically, it demonstrated that children with ASC are more likely to experience ACEs, including abuse, in highlighting a need for further research assessing the therapeutic needs of autistic children who have experienced physical abuse. Subsequently, the thesis aims and structure where outlined. In Chapter Two, the positioning of the research within this thesis will be outlined in depth, including both the ontological and epistemological stances taken and how these are best placed in addressing the aims of this thesis.

Chapter Two: Philosophical positioning

Exploring the Experiences of Autistic Children Who Experienced Physical Abuse Through the Lens of Phenomenology and Critical Realism

2.1 Introduction

In academia, ontology and epistemology are philosophical assumptions which provide a researcher a lens, from which, knowledge and the world can be viewed (Creswell & Plano Clark, 2018; Willig, 2013). In scientific research, there is often debate as to which philosophical assumptions are most beneficial in the production of knowledge (Bem & de Jong, 2013; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). Often, these philosophical assumptions incorporate a researcher's 'worldview', in other words, how a researcher views the world and therefore, how they view knowledge and approach conducting research (Gelo et al., 2008). Thus, a researchers worldview encompasses both their ontology and epistemology (Cresswell & Plano Clark, 2018; Denzin, 2010). Ontology refers to the way a researcher views the world, in that there may be a reality which exist separate from a researcher's world or that reality may be co-constructed (Creswell & Plano Clark, 2018). For example, a researcher may view the world as separate from their version of the world and observe what they are researching as a truth in the overall world, a view known as realism; or a researcher may view reality as being co-constructed in certain contexts, and therefore there are multiple differing realities, a position known as social constructionism (Braun & Clarke, 2013). Differing from ontology, epistemology focuses how the knowledge of the world is gained and what a researcher can know (Creswell & Plano Clark, 2018; Willig, 2008). Expanding on the positionings mentioned above, in adopting a view which aligns with realism, a researcher would adopt an epistemology which views research as allowing the discovery of absolute truths of an objective reality; whereas, in adopting social constructionism a researcher may view knowledge as being both socially constructed and influenced by the individual's context in the world and therefore, contextual depictions are essential to gaining knowledge (Scotland, 2012).

A researcher's philosophical underpinnings, often, guide a researcher to choose specific methods (Creswell & Plano Clark, 2018; Denzin, 2010). However, as research has evolved, so too has the monolithic view on research; as such, a researcher may find themselves adopting a different ontological and epistemological view than that which is commonly adopted for their respective methods (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). For example, while historically qualitative methods were largely viewed as compatible with only social constructionist worldviews, modern day research highlights that the association between philosophy and methodology can be more flexible. However, it is important to note that philosophical assumptions have many applications and may be utilised in different ways, it is therefore, important for a researcher to explicitly outline their philosophical positionings and how those positionings will guide their research (Creswell & Plano Clark, 2018; Willig, 2013). For example, a researcher may adopt critical realism as their ontology and view the reality as being created by a series of underlying causal mechanisms, whereas another researcher may adopt critical realism as an epistemology and view knowledge through the understanding of these causal mechanisms (Yucel, 2018). Additionally, a researcher may all together reject the idea of critical realism and adopt a philosophical assumption which views reality as objective with factual entities that can be discovered. As there are many differing views on the world, a researcher must be transparent in their view and discuss the wider implications it has on their research (Creswell & Plano Clark, 2018).

This chapter will, therefore, discuss the historical debate of philosophical assumptions as they pertain to the sciences, leading into the positions which are adopted in psychological research, then discussing the approaches adopted for the current doctoral research and finally, position the current research within its adopted philosophical assumptions which form a contextual basis for its methodological positioning (discussed in the next chapter). The current research aims to understand and explore the experiences and therapeutic needs of children with autism who have experienced physical abuse. In this, a phenomenological ontology and critical realist epistemology, along with a mixed methods paradigm have been adopted. See figure 1 on page 21.

Figure 1

Overview of Ontology, Epistemology, and Paradigm

Ontology: Phenomenology (How a researcher views knowledge)	**Epistemology: Critical realism** (How and what a researcher can know)	**Paradigm: Mixed methods**	**Overview**
Through lived experiences and a person's situatedness in the world.	Knowledge is separate from the knower. It is possible to gain knowledge of the world through feedback from parts of accessible reality.	Explanatory sequential design: previous phases inform the next phase.	
Understanding experiences of children with autism who have experienced physical abuse through parent's lens. Take into account the parent's perception through their child's experience. What difficulties/experiences did they face that may have an influence on their view of the experience of their child (possible difficulties in getting a diagnosis, or treatment. Possible difficulties in getting therapeutic recommendations etc.). Parents perception might be different than therapists or caregivers. Adults with ASC may have a different view due to their lived experience with ASC and abuse.	Move beyond surface level observations. Participants have different structures which construct their reality, the participant is the 'expert' in their reality. Learning about child's experiences through the lens of their parent, which may have been influenced through their experiences. Knowledge can also be fallible and change over time, time between the child experiencing the abuse may have changed perceptions on the experience for the parent. Parents may have different view as they are the parents of the child, experience recount of their child's experience may be over/under reported by them. Adults with ASC may be influence by their lived experience with ASC and physical abuse. Adults are the 'expert' in their own reality of the experience. Knowledge can also be fallible and change overtime, these experiences are retrospective accounts of childhood experiences.	Evidence synthesis →Quant survey → Qual survey → Logic model Evidence synthesis: Systematic review narrative synthesis, scoping review Quant survey: parents, guardians, caregivers and autistic adults Qual survey: parents, guardians, caregivers and therapists. IPA analysis Logic model: Bringing it all together	Understanding each person's situatedness in the world and understanding how that might influence their perception of an experience. Knowledge can be fallible and is not separate from the knower itself. Possible to gain knowledge of the world through participants recount of experiences. Explanatory sequential design, the preceding phase influences the phase after.

As previously noted, Autism Spectrum Condition (ASC) is a pervasive developmental disorder which is categorised by repetitive, sensory-motor behaviours (Lord et al., 2020; Lord et al., 2018). ASC has varying levels of severity and is often associated with cognitive, socio-emotional, and behavioural deficits (Lord et al., 2020). Individuals with ASC have been found to be more likely to experience Adverse Childhood Experiences; these are experiences that happen in childhood which are potentially traumatic, this includes physical abuse (Hoover & Kaufman, 2018; Berg et al., 2016). Physical abuse is categorised by any instance an individual inflicts harm on another individual, including contriving an illness or symptoms of an illness (Milner et al., 2022). Research on children with ASC has primarily been conducted using a positivist paradigm and has used quantitative means to gather data (Mehtar & Motavalli Mukaddes, 2010). This has been argued against as positivist assumptions often only allow for surface level data to be gathered (Kourti, 2021). As positivist assumptions hold that knowledge is objective and may only be understood through what is directly observed, using this approach while dealing with complex conditions, such as ASC, may not provide a full enough picture of autistic experience (Kourti, 2021). For example, as ASC often involves sensory issues, an individual may appear agitated or angry when certain stimuli is present. From a positivist lens, a researcher may only understand that the person is agitated or angry around these stimuli, yet they would not get to the deeper understanding of why this may be. From a positivist view, the observation of aversive stimuli may be enough, however, to fully understand an individual's experience with those stimuli, it is imperative for a researcher to dig deeper. As the current research aims to gain a deeper understanding of the experiences of children with autism who have experienced physical abuse, a phenomenological ontology and critical realist epistemology has been adopted. As such, the philosophical assumptions this research has taken are rationalised and contextualised throughout this chapter.

2.2 Research and Philosophy: The Debate

In order to complete research, a foundation for its inquiry is needed; this is provided by the researcher's worldviews and subsequently, by their philosophical assumptions (Gelo et al., 2008). As briefly discussed, there are many different philosophical assumptions a researcher may adopt, as there are various worldviews a researcher may hold. Due to the overabundance of different worldviews, there is much confusion in psychology surrounding what may be considered philosophy and what may be considered ontological or epistemological (Schuh & Barab, 2007). As ontology refers to the way a researcher views the world and epistemology refers to what a researcher can know, these views are clearly subjective (Scotland, 2012). As such, what is considered ontological or epistemological has been a point of contention for many researchers; with some arguing even the basic definitions of these philosophical underpinnings (Schuh & Barab, 2008; Marsh & Boag, 2014). As such, there are no definitive rules for conducting research within certain philosophical assumptions, instead, there are philosophical assumptions which fit within certain frameworks (Schuh & Barab, 2008). In adopting philosophical assumptions, it is then, the researcher's duty to be able to justify their position and discuss the ways in which their philosophical assumptions guide their research.

Traditionally, a researcher would adopt the philosophical assumptions surrounding three main worldviews and their accompanying philosophical assumptions: objectivism, interpretivism, or constructionism (Scotland, 2012). An objectivist outlook may adopt a positivist ontology and objectivist epistemology (Yanchar & Hill, 2003; Rehman & Alharthi, 2016; Scotland, 2012; Snape & Spencer, 2003). A positivist ontology posits that there is an ascertainable reality outside of consciousness, in other words, there is a reality separate from the researcher (Hiller, 2016; Scotland, 2012). Along these lines, an objectivist epistemology suggests that as the researcher and the researched are separate, the researcher must obtain knowledge from the objective reality (Hiller, 2016; Scotland, 2012). In this approach, a researcher would aim to gain knowledge about an outside entity and the knowledge gained is not positioned in a cultural or historical context (Scotland, 2012). This approach was the 'norm' in science-based fields and relied mostly on the role of observation, as it stressed that through experimentation a researcher could discover truths about an objective reality (Bem & de Jong, 2013). Critics of an objectivist worldview argue that objectivism may not fully capture phenomena as it only observes what is on the surface of reality (Asghar, 2013; Bem & de Jong, 2013). As objectivists hold the belief that knowledge is based on what may be directly observed, researchers who adopt other worldviews argue that this view may not give a full description of reality as it is limited to only what is directly observed (Asghar, 2013; Bem & de Jong, 2013). Objectivism may not fully explore the underlying mechanisms of reality or of phenomena, as these are often things which are not directly seen (Bem & de Jong, 2013; Creswell & Plano Clark, 2018).

Differing from this approach, is an interpretivist worldview; in which, a researcher would adopt a relativist ontology and a subjectivist epistemology (Scotland, 2012; Snape & Spencer, 2003). This stance dates back to Kant (1781), in which he argued that people often observe the world through other means than direct observation (Snape & Spencer, 2003). Interpretivism holds the belief that there are multiple realities which are socially constructed (Rehman & Alharthi, 2016). As such, a critical ontology views reality as subjective, and thus, reality is meaningless without consciousness (Scotland, 2012). Along with this, a subjectivist epistemological view holds that the researched does not exist without the researcher's knowledge of it, or that external reality cannot exist without being influenced by the researcher's consciousness (Rehman & Alharthi, 2016; Scotland, 2012). Whereas those who adopt objectivism often make factual and descriptive accounts of knowledge, an interpretivist would view knowledge as being understood through the constructed lens of the participant (Rehman & Alharthi, 2016; Scotland, 2012; Snape & Spencer, 2003). In this view, the world is ever changing and moulding as individuals construct their reality in differing ways (Scotland, 2012). Those who argue against interpretivism discuss the difficulty of generalising knowledge gained through this perspective (Alharahsheh & Pius, 2020). As multiple realities exist under an interpretivist paradigm, each which is only true to the person conveying it, research which performed under an interpretivist paradigm is less likely to be applicable to an entire population (Alharahsheh & Pius, 2020). Additionally, with an interpretivist worldview a researcher must consider entire experiences, rather than concentrating on fragments of it; this may limit researchers as interpretivist research may be more time consuming (Alharahsheh & Pius, 2020).

Building from interpretivism is a critical paradigm, where a researcher would adopt a historical realist ontology and subjectivist epistemology (Scotland, 2012). In historical realism, reality is viewed as having been formed from an individual's internal influences; with this the reality cannot be researched without being affected by the researcher, thus positioning a researcher within a subjectivist epistemology (Rehman & Alharthi, 2016; Scotland, 2012). With these philosophical underpinnings, a researcher aims to be conscious of their own epistemological assumptions and convey them clearly while performing their research (Scotland, 2012). Arguments against a critical worldview are often rooted in the dialogue this view takes as a critical worldview often focuses on the underlying power structures of a society (Scotland, 2012; Asghar, 2013). Those opposed to this view argue that even the existing power dynamics between the researcher and participant may skew the knowledge the researcher is trying to gain (Scotland, 2012). In this case, a participant might be attempting to either provide the researcher with what they believe the researcher wants, or they may do the opposite; thus, this unequal power dynamic may create bias (Scotland, 2012). Other arguments against a critical worldview discuss the difficulty in interpretation (Asghar, 2013). As a critical worldview upholds that a researcher's positioning in the world is important to consider as well, interpretation of knowledge is not separate from the researchers own beliefs which may create an issue of bias.

Most experimental based sciences, such as physics, choose positivist philosophical assumptions in their approach to research, however, in psychological research, there has been much debate surrounding philosophical assumptions (Bem & de Jong, 2013; Willig, 2013). At one end of psychology, there is a belief that aligns with positivist assumptions, in that there is an objective reality and universal truths which can be discovered about that reality; on the other end, there is a social constructionist approach which is the belief that reality is co-created and co-constructed and an experience must be obtained within the context of which they are situated (Bem & de Jong, 2013; Leavy, 2014). In the middle of these two approaches there is the interpretivist approach which incorporates aspects of both approaches in that there is an obtainable truth that exists outside of our experiences, yet it is still embedded within a social, cultural, and historical context (Bem & de Jong, 2013; Leavy, 2014). However, as psychological knowledge advanced so did researchers positionings. More recently, researchers have shifted their views on how they can observe the world through a realist approach, a phenomenological approach, and a social constructionist approach (Willig, 2008). Realism as it relates to ontology and epistemology, has many facets. As mentioned, historical realism is often related to a positivist approach and a way of viewing the world as entirely separate from the researcher (Rehman & Alharthi, 2016; Scotland 2012; Snape & Spencer, 2003). This was considered the standard for all sciences as it created a unified system and allowed for methods to be applied across all fields (Bem & de Jong, 2013). As this approach valued falsification and a unified structure, researchers were only concerned with the context of justification rather than the context of discovery (Bem & de Jong, 2013; Johnson & Onwuegbuzie, 2004). Context of justification focused solely on logical, methodological, and epistemological criteria whereas, context of discovery included the social, historical, or psychological processes involved in the discovery of data (Bem & de Jong, 2013). In this approach, researchers were only concerned with the observable data and not the processes behind discovering that data (Bem & de Jong, 2013). However, most psychological research involves the complex nature of humans, and it has been argued that it is difficult to obtain purely objective data and as such, a strictly positivist approach to realism began to be rejected by psychological researchers (Bem & de Jong, 2013). Some psychologists soon began to realise that there are many 'unoberservables' in data and that observation and theory are not separate entities (Bem & de Jong, 2013). As such, psychologists began to reject logical positivism as it views only observable data from one true reality as valid, due to this, researchers began adopting new ways of viewing the world and thus, different philosophical assumptions were embraced.

Following the rejection of logical positivism, new worldviews began to be adopted. One worldview which soon rose in popularity was called social constructionism (Bem & de Jong, 2013). Social constructionism posits that the world is not understood through simply observing objects in that world, but rather that the world is a product of language and discourse (Bem & de Jong, 2013; Burr & Dick, 2017; Gergen, 1985,2004). Social constructionism holds the belief that the world is socially constructed, and as such, a researcher observes the world around them through the ways in which the world is described (Bem & de Jong, 2013; Burr & Dick, 2017; Nightingale & Cromby, 2002). A social constructionist view tends to explore research within the context of political, cultural, and historical relevance and with this, this view places emphasis on discourse and power relations through which an experience or object is explained (Burr & Dick, 2017; Gergen, 1985). A social constructionist outlook adheres to the belief that there are many perspectives of events, people, or objects and that the perspective which is typically viewed as 'correct' is often due to the politics or power associated with that perspective (Burr & Dick, 2017). Viewing the world in this manner, a researcher adopting social constructionism attempts to influence the way in which society acts and how individuals view the world (Burr & Dick, 2017). For example, Burr and Dick (2017) discuss how criminals are often seen as needing reform or punishment for committing ‘wrongdoings’, however viewing this event through a social constructionist lens may uncover that criminal behaviour often stems from poverty, and lack of access to employment or education. Thus, a researcher utilising social constructionism could create a discourse on their findings, in hopes of educating or influencing societal matters. Discourse, for those who adopt social constructionist assumptions, describes ‘broad meaning systems’, or culturally significant sets of ideas which provide meaning for the world and experiences within it (Burr & Dick, 2017). Though, discourse differs from general ideas as discourse holds ‘productive power’, discourse does not only describe the world, it also actually influences what an individual does or how they act (Burr & Dick, 2017). For instance, discourse surrounding mental illness may include the notion that the Diagnostic Statistical Manual of Mental Disorders (DSM) places emphasis on symptomatology and placing labels on a set of symptoms. For example, traumatic experiences may be viewed as subjective and as very personal experiences, however, trauma as viewed by societal standards must meet the criteria laid out by the DSM for an individual to receive a diagnosis and subsequent treatment. The subsequent treatment may then only treat the criteria symptoms. Discourse surrounding the issue of trauma may attempt to uncover that traumatic experiences are subjective to the experiencer and that a ‘one size fits all’ treatment is not appropriate.

Inherently, social constructionism refers to experiences which are co-constructed and what it means to be human, one argument against social constructionism arose from the fact that social constructionism does not coincide with the belief that there are definitive truths in the world (Burr & Dick, 2014; Gergen, 1985). Debates against social constructionism stem from this idea that there are many different perspectives, and that knowledge is embedded with an individual’s contextual standing in the world (Andrews, 2012). A researcher adopting a positivist worldview may reject this notion as they would view the contextual description of cultural, social, and historical situatedness as irrelevant as that is a subset of a demarcated ‘true’ reality (Bem & de Jong, 2013). Fundamentally, a social constructionist outlook and positivist approach differ on a key philosophical debate, what is knowledge and how can it be measured. In psychology, viewing research through a positivist lens pertains to the identification of underlying psychological mechanisms and may argue that a social constructionist view disregards these factors (Gergen, 1985). In turn, a social constructionist outlook may argue that a positivist worldview is only concerned with exogenic knowledge and disregards a deeper level of understanding (Bem & de Jong, 2013; Gergen, 1985). As these views inherently oppose each other, there are a number of arguments related to the debate between positivist views and social constructionist outlooks.

Another argument in this debate relates to reliability and validity. As a social constructionist outlook adheres to the belief that there are many perspectives of events, people, or objects, commonly, the perspective which is typically viewed as ‘correct’ is often due to the politics or power associated with that perspective (Burr & Dick, 2017). As politics and power structures may change and individual’s context within reality may change, researchers may argue that reliability and validity within social constructionist research becomes an issue (Bem & de Jong, 2013; Burr & Dick, 2017; Nightingale & Cromby, 2002). Reliability, simply explained, is the repeatability of research; whereas validity is concerned with a researcher’s depiction of events fitting what is ‘really there’ (Burr & Dick, 2017). As a result, social constructionists have adopted an alternative criterion, such as ‘trustworthiness’ to ensure their research is carried out thoroughly (Burr & Dick, 2017). A social constructionist approach is often used in qualitative research as it allows for in-depth, contextual data (Bem & de Jong, 2013; Burr & Dick, 2017). Many researchers adopt this view as they argue contextual descriptions are crucial to research, rejecting the notion of a positivist worldview that quantifiable data is consequential.

Other arguments pertaining to social constructionism relate to societal change. As mentioned previously, social constructionism attempts to enact societal change through discourse and as with a critical paradigm, some researchers may argue that actual change is difficult to enable (Burr & Dick, 2017; Scotland, 2012). While some may argue that ‘change’ should be the forefront of good research, some researchers may argue that through this discourse those who adopt social constructionism may make their participants aware of power inequalities without being able to fully ratify societal change (Scotland, 2012). For example, autistic individuals may be made aware of the inequalities they face, such as experiencing more bullying or abuse, without fully being able to rectify the situation on a larger scale. Some researchers may argue that not being able to fully change societal inequalities may actually cause more harm than good for participants as they are now made more aware of the injustices they face, thus shattering their ‘ignorance is bliss’ illusion (Scotland, 2012). Along with this notion, is the issue of interpretation. A researcher adopting a social constructionism worldview has to create meaning from their discourse, whereas a researcher using a positivist lens may not. For example, attempting to understand an individual’s experience with abuse may prove more difficult while using a social constructionist lens as there are many underlying processes to understand. Whereas a researcher using a positivist lens may only view what is readily available on the outside of that individual’s reality. In this instance, interpretation may be challenging as texts or descriptions of experience may be either unclear, or confusing, while, on the other hand, using a positivist lens may create a clear and quantifiable picture of the experience (Asghar, 2013). The debates between a positivist worldview and social constructionist worldview venture through many different facets of defining and conducting research. As these debates are still present in psychological research, some researchers have chosen to adopt other philosophical assumptions to guide them.

The philosophical debate between a social constructionist outlook and a positivist outlook created a way of dualistic thinking in research, which led to yet another way of viewing the world; through a phenomenological lens (Langdridge, 2008). A phenomenological philosophy is concerned with experiences and contextualised descriptions of those experiences (Davidsen, 2013). Phenomenological research often falls somewhere in the middle of the continuum, between positivism and social constructionism and has been closely associated with an interpretivist worldview (Wojnar & Swanson, 2007). Phenomenology has been described as a way of seeing, in that the way things appear through our conscious experience may be different from reality (Gallagher, 2012). However, the difference between phenomenology and positivism is that phenomenological research is concerned with how an individual experiences the world, not how reality is ‘truly’ (Gallagher, 2012). This approach was founded on the basis that it is not possible to separate objects from the subject who is experiencing them (Davidsen, 2013). In an analogy used by Gallagher (2012), he discusses envisioning research as looking out of a window and that which a person sees through the window is being researched;

instead of simply viewing what is outside the window as objective truth, the researcher must look at the window itself. The window may be dirty, there may be a smudge on it, or the glass in the window may be distorted; in this, Gallagher (2012) is explaining that it is important to explore the context of conscious experience, yet still hold the experience or object as true to the person experiencing it. Though phenomenology has grown in popularity for psychological research, it is not without its own debates. As phenomenology focuses on experiences as they are lived through an individual's reality, capturing the complexity of this reality proves difficult (Berndtsson et al., 2007). Though, researchers may use interview techniques or observation, it is still not possible to capture an experience in its entirety (Berndtsson et al., 2007). Yet, another issue surrounding phenomenology discusses the notion of an ever-changing world (Berndtsson et al., 2007). For example, an individual may experience abuse in childhood and not be able to recognise the situation at a young age, however their perception and feelings towards that matter may change overtime, thus, creating a different experience in their own reality. While attempting to explore this experience, the changes in perception and emotion may cause restrictions in capturing the phenomena. Whereas, adopting an objective view a researcher may only choose to focus on the fact that the abuse did, in fact, occur. Additionally, phenomenology favours a dialog between the participant and the researcher. Some researchers who adopt other philosophical assumptions may take issue with this dialog as it is meant to be reflective of lived experience, yet this may pose an issue in the 'discovery' of the experience as individuals may use this dialog as a means of persuasion or justification of the experience (Langdridge, 2008). To this, those who adopt phenomenology recognise that individuals use conversational context to understand each other and give a voice to the experience (Langdridge, 2008).

As there are a variety of different world views and philosophical assumptions a researcher may adopt for their research, it is important to note there is not 'correct' way of implementing each view. The debates within research regarding philosophical assumptions have brought about many discussions surrounding which philosophical assumptions are superior. Though, there is no definitive answer for whether one assumption is better than the other for research. Therefore, a researcher must be able to justify their approach and explain the context in which their philosophical assumptions inform the research they are conducting. In the coming sections, a phenomenological ontology will be discussed along with a critical realist epistemology, and in the latter sections, these positions will be contextualised within the current research being discussed.

2.3 Phenomenology

As previously noted, ontology is part of a researcher's philosophical assumptions which help guide research, it refers to how a researcher can observe the world (Willig, 2008). As mentioned, philosophical assumptions may fall on a continuum, where those who adopt a positivist worldview are on one end and those who adopt a constructionist worldview are on the other; with phenomenologists somewhere in the middle (Gallager, 2012; Scotland, 2012; Wojnar & Swanson, 2007). Phenomenological research is concerned with lived experiences and argues that knowledge is derived from consciousness (Gallagher, 2012). Going back to the analogy mentioned previously, phenomenological research can be analogous to looking out of a window (Gallagher, 2012). The window may be dirty, or have a distorted image, however that does not negate what someone observes on the other side; though, it is still important to note the condition of the window itself (Gallagher, 2012). For example, a parent or guardian of a child who has autism may discuss their experience of their child experiencing abuse, as the parent is speaking of their own experience with their child they may discuss it through a lens of parental concern, rather than being completely neutral. In this example, the window of the parent may have smudges on it as the layer of feelings they have towards that experience along with their own background knowledge of abuse, may, understandably, obscure their recount. While their recount of what transpired may be slightly obscured by their concern, phenomenology allows a researcher to be aware of this instead of only taking their narrative at face value. Phenomenology, by its nature, rejects the notion of positivism as it does not view the world as purely objective, instead it views the world as being real to the person experiencing it while also noting that those experiences are contextual (Gallagher, 2012). In this contextualisation, phenomenology discusses how experiences and reality are based upon, not only the experience, but also the context that the experience is situated in (Wojnar & Swanson, 2007). Going back to the example given previously, a parent or guardian of a child with autism who has experienced abuse may discuss their experience through the lens of caring and protective parent. Whereas a caregiver discussing the same experience may discuss it through a lens of slight detachment as they are not situated in the same context as a parent, that is not to say that they do not care or are apathetic but rather, that they do not share the same societal role as the parent. In addition, parental upbringing or caregiver upbringing may also play a role in how they recount events. For example, a parent may have experienced abuse as a child and therefore, may be even more empathetic and have more visceral reactions towards their own child's experience. In approaching research through a phenomenological lens, this allows for previously overlooked human experiences to be observed (Gallagher, 2012; Wojnar & Swanson, 2007). As such, a phenomenological lens allows for a researcher to gain further insight into a topic being explored through more contextual factors than other approaches might allow (Wojnar & Swanson, 2007). For example, as mentioned previously most autism research has been performed using a positivist lens which may not allow for a researcher to gain contextual clues about the participants own background. However, these contextual clues are essential to phenomenological research as they help a researcher to gain a fuller picture of the complex experience at hand (Wojnar & Swanson, 2007). Phenomenology does not always take a 'one size fits all' approach, in that there are several different phenomenological perspectives which may be adopted (Wojnar & Swanson, 2007). The most common approaches to phenomenological research include descriptive and interpretive (Laverty, 2003; Wojnar & Swanson, 2007). Interpretive phenomenology is commonly adopted by those practicing social science research and is the approach taken for the current research; however, to understand concepts central to interpretive phenomenology, it is first important to understand phenomenology in its totality.

Husserl, the creator of modern phenomenology, discussed phenomenology as mainly descriptive focusing on intentionality and conscious experiences which were perceived in a first-person point of view (Gallagher, 2012; Wojnar & Swanson, 2007). Intentionality is a main tenet in phenomenology which focuses on an objects existence as it is known in the mind (Gallagher, 2012). However, in Husserl's later work he discussed the idea of transcendental subjectivity, which coincides more with a positivist attitude (Wojnar & Swanson, 2007). Transcendental subjectivity allows a researcher to neglect their own lived experience and explain a phenomenon in its pure state (Wojnar & Swanson, 2012). Husserl explains that transcendental subjectivity can be achieved through a process called bracketing, known in phenomenology as the rule of epoché (Gallagher, 2012; Spinelli, 2005; Wojnar & Swanson, 2007). The rule of epoché encourages a researcher to put aside their initial biases and enforce an openness; this helps a researcher be unbiased in their immediate experiences which allows for a more accurate account of the events (Spinelli, 2005). In doing this the researcher must separate what is being explored from the world, to observe it (Wojnar & Swanson, 2007). The researcher must also dissect what is being explored, in that they must uncover and analyse the structure behind it (Wojnar & Swanson, 2007). Though, many researchers point out that it is near impossible to completely achieve the aim of epoché due to the researchers own situatedness in the world (Spinelli, 2005; Wojnar & Swanson, 2007). Yet another view connected with Husserl's descriptive phenomenology pertains to the notion of free will (Wojnar & Swanson, 2007). Husserl theorized that humans are responsible for influencing their environment and that adopting this stance was the only way to produce scientific generalisable data (Wojnar & Swanson, 2007). A notion which was disputed by one of Husserl's colleagues and, later, became a central tenet in interpretive phenomenology.

Interpretive phenomenology, developed by Martin Heidegger and later built on by Hans-Georg Gadamer, was based on some basic notions of Husserl's descriptive phenomenology (Wojnar & Swanson, 2007). The main difference, however, between descriptive and interpretive phenomenology is that interpretive phenomenology adopts the converse of Husserl's 'free-will' notion (Wojnar & Swanson, 2007). In that, interpretive phenomenology posits that human experiences are products of environmental factors; in other words, descriptive phenomenology discusses context as being of minor importance, interpretive phenomenology views context as a central point (Wojnar & Swanson, 2007). Interpretive phenomenology asserts that human experience cannot occur outside of the context of its cultural, social, and historical influences (Laverty, 2003; Wojnar & Swanson, 2007). Heidegger addressed this idea as dasein, or 'the human way of being in the world' (Smith et al., 2022; Gallagher, 2012; Laverty, 2003; Wojnar & Swanson, 2007). In Heidegger's view of phenomenology, consciousness is not separate but rather is a development of lived experience (Laverty, 2003). As such, Heidegger placed emphasis on an individual's situatedness in the world, which includes a person's history or background (Laverty, 2003). In interpretive phenomenology situatedness and dasein form a foundation for preunderstanding, or as Heidegger called it ‘a forestructure of understanding’ (Laverty, 2003; Wojnar & Swanson, 2007). A forestructure of understanding discusses an individual’s background understanding which is derived from their socio-cultural history, in other words, an individual is constructed by their world experiences while at the same time they are constructing their reality from their own experiences (Laverty, 2003; Wojnar & Swanson, 2007). Heidegger argued that forestructure is related to how an individual understands their world and thus, how they interpret their own reality (Wojnar & Swanson, 2007). Therefore, experiences of reality are based in an individual’s forestructure. In this contextualisation, phenomenology discusses how experiences and reality are based upon, not only the experience, but also the context that the experience is situated in (Wojnar & Swanson, 2007).

In opposition to descriptive phenomenology, interpretive phenomenological research identifies that biases or preoccupations for a researcher are inevitable (Smith et al., 2022). For a researcher adopting an interpretive phenomenological view, it is important for them to reflect on their own experiences of what they are investigating to access an understanding of their participant’s experience more openly (Smith et al., 2022; Wojnar & Swanson, 2007). As such, Heidegger discussed understanding a circle of hermeneutics in which interpretation is key (Laverty, 2003; Wojnar & Swanson, 2012). The circle of hermeneutics combines meaning from the researcher’s understanding of the phenomena and from the participants; the goal is then to identify participants meaning of their experience from this combination to help better understand the participants experience within their reality (Laverty, 2003; Smith & Osborn, 2007; Wojnar & Swanson, 2012). This presents a key difference in interpretive phenomenology when compared to descriptive phenomenology, as interpretive phenomenology aims to go beyond simple descriptions of human experience and explore meanings embedded in that description (Lopez & Willis, 2004). In order to create a circle of hermeneutics, it is important to have a dialogical relationship between the participant and the researcher (Wojnar & Swanson, 2012). In this, the researcher must view the participant as the ‘experiential expert’ of the experience being explored (Smith et al., 2022).

As the current research is focused on exploring and understanding the therapeutic needs of children with autism who have experienced physical abuse, adopting a phenomenological approach will help uncover contextual experiences of the participants reality. In the latter section of this chapter, a contextualisation of this approach as it relates to the current research will be discussed.

2.4 Critical realism

Epistemology is a philosophical assumption that is concerned with how and what a researcher can know (Willig, 2008). This philosophical assumption involves the nature of knowledge, in contrast to a researcher’s ontology which concerns how knowledge is observed (Willig, 2008). There are many different epistemological stances a researcher may adopt and many ways of interpreting a researcher’s epistemological stance (Willig, 2008). For example, phenomenology, though often used as an ontology, has epistemological implications, and was interpreted by Husserl as an epistemological stance (Gallagher, 2012). Husserl’s descriptive phenomenology relates to epistemology as it often sets aside metaphysical theories and focuses on experiences as they appear through consciousness (Gallagher, 2012; Laverty, 2003). Descriptive phenomenology also disregards the contextualisation of experiences and only focuses on the researcher bracketing their biases in order to develop an understanding of an individual’s experience (Laverty, 2003). Through bracketing a researcher can develop an unbiased glimpse into an individual’s lived reality (Laverty, 2003; Wojnar & Swanson, 2012). Husserl maintained that through phenomenology, one could develop a description of a particular reality, rather than understand an experience through one’s contextualised reality (Laverty, 2003). In this way, descriptive phenomenology is concerned with how and what a researcher can know (experience through consciousness) rather than understanding experiences as they are experienced in an individual’s reality.

As the phenomenological ontology approach is concerned with how experiences and reality are based on the context of that experience, it is crucial to adopt an epistemology which understands this notion. Critical realism is an approach which takes the stance that knowledge is produced through social means, rather than denoting that knowledge is known separately of the knower (Yucel, 2018). This approach which was founded by Roy Bhaskar and gained popularity through the 1970s; it is a multifaceted approach which emerged from the positivist/constructionist debate as an alternative to both stances (Fleetwood, 2014; Fletcher, 2017; Pilgrim, 2019). Critical realism maintains that there is a social world which a researcher may access, however certain aspects of knowledge may be closer to a true reality than others (Fletcher, 2017). In this way, critical realism shares components of both positivism and constructionism. Though, critical realism deviates from both views as it posits that human knowledge only depicts a small portion of a deeper reality (Fletcher, 2017). Critical realism has been adopted by many researchers in the social sciences, though not always as an epistemological approach, some argue this view may also be used to inform a researcher's ontology, or even their paradigm (Albert et al., 2020). As critical realism has many applications, it is important for a researcher to be explicit in their application and in how this approach informs their research.

A critical realist epistemology agrees that knowledge is fallible, though, also that knowledge is positioned (Albert et al., 2020). In that notion, critical realism agrees with phenomenology in that knowledge is a product of social means and that research may never tell us a complete truth about reality (Yucel, 2018). Critical realism differs from an objectivist approach in this way as it does not assume that data is a direct reflection of reality; instead, it proposes that data needs further interpretation to understand foundations which produce the phenomenon (Willig, 2013). This approach posits that reality is embedded in three levels, that is 'the empirical', 'the actual', and 'the real' (Fletcher, 2017; Pilgrim, 2019; Yucel, 2018). 'The empirical' is explained as what can be empirically measured or viewed (Fletcher, 2017; Pilgrim, 2019). For example, a child with autism may engage in hand flapping behaviour when they are happy or excited. The 'actual' level of reality discusses experiences that occur whether or not an individual directly experiences them (Fletcher, 2017; Pilgrim, 2019). An example of this would be if a child with autism engages in hand flapping behaviour but an individual is sitting in different room than the child, the behaviour still occurred, yet no one saw it. The 'real' level consists of the underlying casual mechanisms which allows for the child to engage in hand flapping behaviour, in this instance it would be the underlying excitement and happiness (Fletcher, 2017; Pilgrim, 2019). In this whole event occurring, a positivist may only be reduced to viewing 'the empirical' and 'the actual', as that is what they may directly experience (Yucel, 2018). Whereas critical realism aims to move beyond these levels and, instead, explain events or experiences through reference to causal mechanisms and recognise the effects they may have throughout all levels of reality (Fletcher, 2017; Pilgrim, 2019; Yucel, 2018). Though, this way of viewing reality has been discussed as inherently ontological, it is important to understand as the idea of ‘the real’ relates directly to a critical realist epistemology (Fletcher, 2017; Yucel, 2018).

Critical realism takes the stance that knowledge is produced through social means and is not independent of those who produce that knowledge (Yucel, 2018). Though, those who adopt social constructionism hold a similar view, a critical realist view posits that knowledge is relative to subjective factors which impact the construction of that knowledge, as such, the world is not relative to the knowledge of that world (Yucel, 2018). In this way, a phenomenological ontology may help to determine some subjective factors which impact a researcher or participants construction of their knowledge. Adopting a critical realist epistemology allows for a researcher to explore their topic on a deeper level, as it aims to go beyond surface level interpretation (Fletcher, 2017; Willig, 2013; Yucel, 2018). What is known and how it is known is relative to subjective factors as they constructed the individual’s reality (Yucel, 2018). Bhaskar discusses that as these subjective factors construct reality, the ultimate scientific discovery is to unearth the causal mechanisms (Yucel, 2018). For example, using this lens would allow a researcher to discuss an experience of abuse through the eyes of a parent or guardian, while still understanding that their subjective factors, such as, their own experience with past abuse or their own experience with their parents, play a role in how they discuss their child’s experience. While other approaches might dismiss these factors as irrelevant, critical realism, along with phenomenology, deem these subjective factors as being crucial to the experience as they shape the perception of the experiencer. Critical realists discuss how perceptions are shaped by outside theories or investigative interests; however, it is possible to gain knowledge of the world through feedback from the parts of reality which are accessible (McEvoy & Richards, 2006; Yucel, 2018). In gaining knowledge about reality, discourse is crucial, as it is with phenomenology; though, it is important to keep in mind that accounts of experiences may only be glimpses of full events (McEvoy & Richards, 2006). In adopting this view, it is also important to understand how discourse relates to underlying social structures and to keep in mind that participants are ‘social actors’ who are embedded in these (McEvoy & Richards, 2006).

2.5 Research Paradigm

Often in research, a researchers paradigm encompasses a researcher's ontology, epistemology, and methodology (Creswell & Plano Clark, 2018). As discussed throughout this chapter, there are many different approaches which a researcher may take. Mixed methods research emerged as a response to the paradigm wars and has been discussed as a third research approach or paradigm (Denscombe, 2008). Mixed methods evolved as a new methodological alignment with its own worldview (Denscombe, 2008). A researcher may choose mixed methods of a number of different reasons, including creating a more complete picture by combining information, improving the accuracy of data, or to build on initial findings (Denscombe, 2008). As the current research is focused on a deeper reality and in-depth data, a mixed methods approach was adopted.

As discussed, mixed methods emerged out of the paradigm wars as a response to the 'incompatibility thesis' (Creswell & Plano Clark, 2018). This thesis posited that quantitative and qualitative methods were incompatible, as were their philosophical underpinnings. In more recent years, researchers have begun to move past this notion and instead, draw from the strengths of each approach and minimize their weaknesses (Creswell & Plano Clark, 2018; Johnson & Onwuegbuzie, 2004). Often in research, researchers may mistake their philosophical assumptions as being synonymous with research methods, and therefore, adhere to purely quantitative methods or qualitative methods based on their philosophical stance (Johnson & Onwuegbuzie, 2004). However, this belief is not central to a mixed methods approach (Creswell & Plano Clark, 2018; Johnson & Onwuegbuzie, 2004). Instead, a mixed methods approach holds that differences in philosophical assumptions should not prevent a qualitative researcher from utilising quantitative methods, or vice versa (Johnson & Onwuegbuzie, 2004). Though, a mixed methods approach utilises both quantitative and qualitative methods, it has emerged as a new paradigm in which it has its own worldview and techniques (Denscombe, 2008). Often, mixed methods research has been seen as using pragmatism as its philosophical 'partner' (Johnson & Onwuegbuzie, 2004). However, it has been argued that the aim of using mixed methods as a paradigm should be to use a method and philosophical assumptions that are able to provide insights in both quantitative and qualitative work (Johnson &

Onwuegbuzie, 2004). Utilising this paradigm allows for a range of philosophical assumptions to be adopted and does not restrict the researcher (Johnson & Onwuegbuzie, 2004). Instead, a mixed methods approach is inclusive and pluralistic, as such, this paradigm has been adopted for the current research. In the next chapter, the mixed methods methodology will be discussed and contextualised.

2.6 Paradigm Wars: The Philosophy of Quantitative and Qualitative Methodologies

As discussed, paradigms have historically been viewed as a deciding factor in a researcher's philosophical assumptions and methodology (Bryman, 2008; Creswell & Plano Clark, 2018). For decades it was believed that there were only two paradigms which a researcher could adopt, positivist or constructionist (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). As positivists viewed the world as holding undeniable truths, they often adopted quantitative methods and relied on empirical approaches to gain knowledge about these truths (Tashakkori & Teddlie, 1998; Yucel, 2018). In opposition, constructionists valued qualitative methods and believed that individuals are products of their cultural, historical, and social worlds (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). As these two views inherently opposed each other, researchers began to vehemently defend their respective view and it's given philosophical assumptions (Tashakkori & Teddlie, 1998). The defenders of each side became known as 'purists' and their debates of superiority gave way to what is now referred to as the 'paradigm wars' (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998).

Beginning in the mid-1960s the social sciences were engulfed in a heated debate over which paradigm was superior (Tashakkori & Teddlie, 1998). As paradigms encompass ontological and epistemological stances, the paradigm wars have been argued to be a war over philosophical assumptions, rather than a war solely based on which methods are best (Bryman, 2008). In this sense, the paradigm wars centred around differing ontological and epistemological views, along with which accompanying methods were superior (Bryman, 2008). For positivists, their ontological stance encompassed a belief that there are truths and facts which can be uncovered from a natural world; for constructionists their belief was that the world is a continuous process that is socially constructed by its participants (Bryman, 2008;

Tashakkori & Teddlie, 1998). Epistemologically, positivists believed that there is a natural scientific process to uncover truths, for constructionists, however, their belief was that individuals consistently engage in their social world and thus derive their own constructions of that world (Bryman, 2008). As these philosophical assumptions were seen as incompatible, so too were their respective methods; this became known as the incompatibility thesis (Bryman, 2008; Tashakkori & Teddlie, 1998). However, as the paradigm war continued, many researchers began viewing the benefits of using both quantitative and qualitative methods, and soon researchers in the field of education and other social sciences began to make strong arguments for a mixed methods approach (Bryman, 2008; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). In the 1990s, the paradigm wars created a paradigmatic vacuum which allowed mixed methods research to rise in popularity (Creswell & Plano Clark, 2018). In adopting a mixed methods approach, researchers began to see its use in generating a deeper understanding of knowledge (Creswell & Plano Clark, 2018). Though, as many researchers began adopting this approach, another issue arose regarding which philosophical assumptions should be used (Creswell & Plano Clark, 2018). Some argued for a post-positivist approach, which adopted views from both positivists and constructionists (Tashakkori & Teddlie, 1998). However, post-positivists emphasise deductive reasoning, whereas most mixed methods researchers use abductive reasoning, moving between induction and deduction (Kaushik & Walsh, 2019). Currently, most mixed methods researchers argue in favour of a third paradigm, pragmatism (Bryman, 2008). Pragmatism was viewed as a device which settled the battles between purists and instead viewed mixing methods as a technical decision by researchers regarding the appropriateness of those methods in exploring topics (Bryman, 2008). Pragmatism focused on allowing the researcher to adopt their own philosophical assumptions and allows researchers to adopt a ‘what works best’ approach to research (Allemang et al., 2021). For the current research, a mixed methods approach has been adopted and will be outlined and discussed in the next chapter.

2.7 Positioning the Current Research

The current research being discussed aims to explore and understand the experiences of children with autism who have experienced physical abuse through a phenomenological ontology, critical realist epistemology, and mixed methods approach.

Gadamer, who built on Heidegger’s notion of interpretive phenomenology, stressed an importance for the researcher to have a bond with the subject they are attempting to understand (Laverty, 2003). In this, however, it is important for a researcher to be able to address their own biases and their own situatedness in the world in relation to the topic they are exploring (Smith et al., 2022; Wojnar & Swanson, 2007). As the researcher for the current research has a history of professional knowledge about therapeutic approaches in working with children with autism who have experienced physical abuse, along with their own experiences of being neurodivergent, a reflexive narrative was conducted. Interpretive phenomenology stresses the importance of context for the participants as well (Smith et al., 2022; Wojnar & Swanson, 2007). This is an important notion for the current research as well, as surveys were conducted with parents, guardians, and caregivers as well as adults with autism and qualitative survey’s were conducted with parents, guardians, and caregivers. Adopting this view allowed for the researcher to understand that a view from a participant who has autism may differ from the view of a parent, guardian, or caregiver of a child with autism. In this, all participants are held equal, though the context of experiences may be different. For example, a caregiver who works at a residential treatment centre may have a different perception of which therapeutic approaches are helpful, as opposed to a parent or guardian. A caregiver may have been exposed to a number of approaches, whereas a parent or guardian may have only been exposed to one. It is also important to consider cultural aspects. Participants were recruited from all around the world, and thus, all have a different cultural background. Participants from the United States may have different views from a participant in the United Kingdom as ways of addressing autism in each country differ. This is also an important notion for the researcher to consider, as their professional background stems from the United States, however their research background is largely influenced by methods and assumptions taken in the United Kingdom. Adopting an interpretive phenomenological ontology allows for the researcher to address all of these predispositions, while still gathering a well-rounded set of data.

Adopting a critical realist epistemology for this research allows for the researcher to go beyond surface level observation (Fletcher, 2017; Willig, 2013; Yucel, 2018). This approach allows for the researcher to understand that knowledge is independent of the researcher and the participant while also considering the underlying structures which may have constructed that knowledge (Fletcher, 2017; Yucel, 2018). In the current research, that brings to light the understanding that some participants have differing structures that constructed their reality. For example, experiences of the adults with autism when compared to parents, guardians or caregivers who may not have a diagnosis of autism. It is also important to understand the positionality of the individual in relation to what is being discussed. For example, in the current research qualitative surveys for parents or guardians may create a more biased view of events than caregivers at a residential treatment centre who were not directly involved in the experience being discussed. Again, it is still important to note that all data is still held equal, however there will be differing accounts of experiences due to differing underlying mechanisms.

The idea of adopting a critical realism in autism research has already been put forth by Kourti (2021). In this, Kourti (2021) discusses how autism research to date has been primarily dominated by behaviourism, and therefore, has only been viewed from outside, surface-level appearances. In this, Kourti (2021) discusses that those with autism may appear to lack theory of the mind or central coherence as these are what appear on surface level and are interpreted by seemingly neurotypical psychologists. As neurotypical individuals do not have knowledge of what it is to be neurodivergent they are, therefore, unable to understand more deeply the mechanisms involved in research relating to neurodivergence (Kourti, 2021). The current research is unique and addresses this as the researcher, herself, is neurodivergent. Adopting a critical realist epistemological approach also allows the researcher to be aware that her own experiences of being neurodivergent and what the researcher knows to be true, as well as attempting to uncover deeper facets of participants experiences.

As the current research has adopted a pragmatic paradigm, it is not tied to any one method. Instead, it aims to gain understanding and meaning through ‘the best means possible’ (Allemang et al., 2021; Creswell & Plano Clark, 2013). As such, the current research adopted a mixed methods approach in attempt to achieve their aim of understanding and exploring the experiences of children with autism who have experienced physical abuse. Mixing quantitative and qualitative data allows for a deeper level of understanding of experiences and knowledge. Though, quantitative methods have primarily been associated with a positivist philosophical approach and qualitative methods have been associated with a social constructionist approach, adopting a phenomenological and critical realist approach allows for the researcher to analyse the complete data set on a deeper level. The quantitative data sets a foundation for what needs to be explored more in depth, while the qualitative data allows for the deeper understanding of experiences and events related to this population (Creswell & Plano Clark, 2018; Willig, 2013). This type of approach ties in with a phenomenological ontology as it is still important for the researcher to understand their situatedness in the world, while also exploring the experiences and situatedness of their participants. The results of the first phase of research, which included a narrative synthesis systematic review, provided a foundation for understanding interventions for children who have experienced physical abuse. The second phase of research included two surveys sent to adults with autism and to parents, guardians, and caregivers of children with autism. This phase aimed to determine the prevalence of Adverse Childhood Experiences in the autism population and determine the associated behavioural, socio-emotional, and cognitive impacts. In this, the researcher’s ontological and epistemological approach allowed for understanding that the data collected may not be a full view of ACEs in the autism population and that different participants provide different accounts of their reality. This was also important to consider while conducting qualitative survey’s, the last phase of research. Qualitative survey’s allow for a more in-depth view of an experience, though as they were held with parents, guardians and caregivers of children who experienced physical abuse, they will not recount the full picture of events. Parents and guardians may also have a different view on the experience than caregivers due to having different underlying social structures. As such, the researcher must consider these underlying mechanisms and attempt to bring them to light through their analysis of the data.

In conclusion this chapter highlighted that a researcher’s ontology is concerned with how a researcher can observe the world, whereas epistemology discusses how it is possible to obtain knowledge about the world (Snape & Spencer, 2003). These philosophical assumptions relate to how a researcher views the world and thus, how they will view their research (Rehman & Alharthi, 2016). A researchers ontological positioning often guides their epistemological positioning and historically, both philosophical assumptions are often decided by a researcher's paradigm and their respective methods (Rehman & Alharthi, 2016; Snape & Spencer, 2003). A paradigm is a basic belief system that guides research, it is commonly associated with specific methods and philosophical assumptions (Rehman & Alharthi, 2016). Though there has been a seemingly lifelong debate in psychology about different philosophical assumptions and how to correctly employ them, adopting a phenomenological ontology, critical realist epistemology, and pragmatic paradigm allows for research to go beyond surface level and adopt a mixed methods approach. These different assumptions help to guide the current research to go further into the experiences of a subset of its population. Though, it may not be possible to gain a complete picture of the experiences of children with autism who have experienced physical abuse, it is still possible to gain in-depth knowledge into the experiences of part of this population. As this topic is not widely explored, the current research may help to give way to more, much needed, research on this topic, while also providing a foundation for an intervention tailored specifically to this population.

In this chapter, philosophical debates within psychology and research were outlined. A phenomenological ontology and critical realist epistemology were explained and discussed, along with a mixed methods paradigm. These philosophical assumptions were then contextualised within the current research on exploring and understanding the therapeutic needs of children with autism who have experienced physical abuse. In the next chapter, an overview of mixed methods will be discussed along with discussion and contextualisation of the adopted approach for the current research.

Chapter Three: Methodology

Exploring the Experiences and Therapeutic Needs of Autistic Children who Experienced Physical Abuse: A Mixed Method Approach

3.1 An Introduction to Mixed Methods Research

The methods a researcher chooses are often centred around their worldview and philosophical underpinnings (Creswell & Plano Clark, 2018). Qualitative methods are commonly associated with a social constructionist view (though, not all qualitative methods take this view), while quantitative methods are often adopted by those with a positivist worldview (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). Historically, as these two worldviews opposed each other, the methods which they used were seen as being in opposition as well (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). However, as the production of knowledge has progressed, researchers began viewing the strength of each method, and soon began to implement and integrate them allowing for a more holistic avenue for knowledge production (Creswell & Plano Clark, 2018). The utilisation of both methods became known as a mixed methods approach (Tashakkori & Teddlie, 1998). This approach soon grew in popularity in psychological research and has been argued as being more beneficial in gathering richer, more comprehensive data, than monomethod research (Creswell & Plano Clark, 2018).

As mixed methods research grows in popularity, its use has been seen as beneficial in many areas of psychological research. For example, in an article from Creswell & Zhang (2009), they discuss the importance of using a mixed methods design in trauma research. They note that research on trauma has been primarily either quantitative or qualitative, not both (Creswell & Zhang, 2009). However, utilising mixed methods for trauma research, particularly for intervention development, allows a more holistic view. As trauma research is concerned with the individual, providing a better view of the experience is crucial for intervention development. Quantitative methods allow for trends to be identified, while qualitative provides reasoning for these trends (Creswell & Zhang, 2009). Moreover, embedding mixed methods in trauma research provides a more complete understanding of a complex issue (Creswell & Zhang, 2009).

The notion of utilising mixed methods has also been addressed in research pertaining to Autism Spectrum Condition in which research has primarily been quantitative (ASC; Mehtar & Mukkaddes, 2010). As ASC is considered very complex as well, embedding qualitative methods in a research design provides context to individualised experiences. While quantitative methods can provide a foundation for qualitative methods to be used.

The current research addresses these issues as it utilised a mixed methods design to understand and explore the therapeutic needs of children with autism who have experienced physical abuse. In this chapter, the debate between the two opposing methods is discussed, along with an overview of mixed methods research and its designs, finally, the implementation of mixed methods is discussed in the current research and the phases of the current research are brought together to discuss the end phase of creating a logic model for an intervention for children with autism who have experienced physical abuse.

3.2 Methods: The Debate in Psychology

As briefly discussed in the previous chapter, a war over paradigms began in the 1960s due to debates on which paradigm was superior; a positivist worldview or a social constructionist worldview (Bryman, 2008; Brandon & Ah Sam, 2014; Teddlie & Tashakkori, 2006). 'Worldviews', help to guide research and they encompass a researcher's philosophical underpinnings as well as methods for data collection (Bryman, 2008; Creswell & Plano Clark, 2018; Teddlie & Tashakkori, 2006). In these debates, those who adopted a positivist worldview regarded the world in a fundamentally different way to those who adopted a social constructionist worldview. A positivist worldview believed that there were truths about the observable world which could be discovered; and a social constructionist worldview held the belief that the world was situated within an individual's socio-cultural experience (Bryman, 2008; Creswell & Plano Clark, 2018). As these views inherently differ, research conducted through each lens differs as well. Those with a positivist worldview tend toward viewing research as observable fact, often disregarding social context or positioning (Creswell & Plano Clark, 2018). Whereas social constructionists view research through a different lens, incorporating social context and regarding it as important for gaining knowledge (Creswell & Plano Clark, 2018).

Though, the paradigm wars have been argued as being inherently philosophical, researchers also held debates over which methods were superior, quantitative, or qualitative (Bryman, 2008; Creswell & Plano Clark, 2018). As the paradigm wars ensued, defenders of a positivist view and social constructionist view argued over ontology, epistemology, and methodology (Bryman, 2008; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). Researchers who adopted a positivist view maintained that truths about the world could be uncovered and quantitative methods were best to quantify and measure what is being researcher (Bryman, 2008; Creswell & Plano Clark, 2013; Tashakkori & Teddlie, 1998). Those who adopted social constructionist view, on the opposing end, argued that qualitative methods were superior as it allowed for a deeper understanding of an individual's socio-cultural context (Bryman, 2008; Creswell & Plano Clark, 2018). Quantitative methodology commonly uses deductive logical to make claims, as well as close-ended methods for collecting data; whereas, qualitative methods typically use inductive methods and open-ended methods, such as interviews (Creswell & Zhang, 2009; Tashakkori & Teddlie, 1998). As debates on these two opposing sides deepened, their respective methods and ideologies were seen as incompatible (Bryman, 2008; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). This incompatibility between the two sides became known as the 'incompatibility thesis' (Teddlie & Tashakkori, 2012).

The incompatibility thesis stems from differing views on philosophical assumptions (discussed in the previous chapter) and differing aspects of data collection (Teddlie & Tashakkori, 2012). In this, individuals argued that their respective methods were unable to mix, as researchers may not have the necessary skills to apply both types of methods adequately (Teddlie & Tashakkori, 2012). As qualitative defenders viewed quantitative methods as superficial and collecting only surface level data, there was concern over researchers' ability to perform ethnographic traditions involved in qualitative research (Teddlie & Tashakkori, 2012). Other issues concerning these two approaches arose as well, as researchers were unable to understand how both approaches could be used together (Bryman, 2008). Though some researchers adhered to the incompatibility thesis, others began to view the benefits of using both quantitative and qualitative methods (Bryman, 2008; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). Researchers in the social sciences soon began to make strong arguments for mixing methods, on the premise that mixed methods allowed for richer data and a better understanding of a research topic (Bryman, 2008; Creswell & Plano Clark, 2018). During this time, researchers rejected the incompatibility thesis and argued for a third methodological approach which encompassed both quantitative and qualitative methods (Bryman, 2008; Tashakkori & Teddlie, 1998). As the paradigm wars came to an end, a vacuum was created which allowed for a new approach to psychological research (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). As this new approach involved mixing both methods, it soon became known as mixed methods research (Creswell & Zhang, 2009). Mixed methods research gained popularity over the last few decades and has been viewed as a new, all encompassing, way of conducting research (Bryman, 2008; Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998).

3.3 Mixed methods research

Mixed methods research has been viewed as a new way to combine both quantitative and qualitative methods, in an effort to develop a holistic set of data. This way of completing research differs from monomethod research as it utilises both, quantitative and qualitative methods (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009; Tashakkori et al., 2012). ‘Mixing’ methods involves findings that are integrated or linked throughout points in the study (Ivankova & Creswell, 2009; Ivankova et al., 2006). As mixed methods utilises both methods, researchers argue that the strengths of each method may counterbalance the weakness of the other (Creswell & Plano Clark, 2018; Ivonkova et al., 2006). When using one method, a researcher may often be limited to what information that method can produce. For example, quantitative methods are often unable to capture participants exact experiences and voices, which may lead to a less in-depth data set (Creswell & Plano Clark, 2018). This can be problematic while working with complex issues, such as trauma and ASC, as participants have very individualised experiences in each area. Whereas qualitative methods allow for a deeper understanding of experience (Cameron, 2011; Creswell & Plano Clark, 2018). Though, as qualitative research attempts to gain in-depth data, often a much smaller sample size is used, which may lead to less generalisable data (Tashakkori et al., 2012). A smaller sample size, however, may be able to be counterbalanced by using quantitative methods, which commonly use a larger sample size and conversely, quantitative data may be counterbalanced by qualitative data which provides more depth (Tashakkori et al., 2012). Quantitative research also commonly addresses relationships between sets of constructs, whereas qualitative research aims to uncover more psychological factors or processes involved in the person or experience (Tashakkori et al., 2012). Though, there are many different designs a researcher may use, mixed methods research has defined procedures for collecting data, analysing data and mixing both data sets (Ivankova & Creswell, 2009). Precarious implementation of each method without following a design may, in turn, cause weaknesses to be highlighted instead of counterbalanced (Creswell & Plano Clark, 2018). As such, there are three main characteristics included in the procedure of mixed methods research these include timing, weighting, and mixing (Ivankova & Creswell, 2009). Timing refers to the implementation order of the qualitative and quantitative data collected; and specifically refers to data collection and analysis in the research when one study phase builds on another (Ivankova & Creswell, 2009). Weighting discusses the emphasis given to each type of data collected; in this there are many different factors to consider including, which data set is more central to the study, is more complex, and is discussed more extensively (Ivankova & Creswell, 2009). Lastly, mixing refers to how each method is integrated; this is a central component to mixed methods research and may occur during different stages in the research (Ivankova & Creswell, 2009). These characteristics of mixed methods are important for a researcher to bear in mind while choosing a mixed methods design. The most common designs used in mixed methods research are explanatory design, exploratory design, convergent design, and embedded design (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009).

An explanatory design, otherwise known as an explanatory sequential design, implements quantitative methods first, with qualitative methods following in a sequential phase (Almeida, 2018; Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). In this design, the weight is typically placed on the quantitative methods, while the mixing of these two methods occurs during the development of qualitative protocol and while integrating data from each phase during interpretation and discussion (Ivankova & Creswell, 2009). Another common sequential design is the exploratory sequential design (Ivankova & Creswell, 2009). This type of design is used when a researcher needs to utilise qualitative methods to first explore the topic (Almeida, 2018; Ivankova & Creswell, 2009). In using qualitative methods first, a researcher may identify principal themes helping to create a theory (Ivankova & Creswell, 2009). Following the qualitative methods, a researcher will employ quantitative methods to examine the qualitative data (Ivankova & Creswell, 2009). In this type of sequential design, the weight is commonly given to the qualitative data as it creates a foundation for the quantitative exploration (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). For this design, the mixing of the two methods occurs while developing the quantitative phase from the results of the qualitative phase and, while comparing the quantitative data with the qualitative data (Ivankova & Creswell, 2009). An important factor for a researcher to consider before utilising a sequential design, is that they are often time consuming (Almeida, 2018; Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). Though sequential designs are common while using mixed methods, there are other designs which can be utilised.

Diverting from sequential designs, is convergent design, sometimes referred to as a triangulation design, this is one of the most well-known and most common approaches (Almeida, 2018; Ivankova & Creswell, 2009). Unlike sequential designs, a convergent design collects quantitative and qualitative data simultaneously (Almeida, 2018; Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). With this, the intent for a convergent design is to gather different, yet complementary data on a particular topic (Creswell & Plano Clark, 2018). A researcher may choose this design to compare statistical findings with qualitative data to create a more complete understanding of the research area (Creswell & Plano Clark, 2018). As this design utilises concurrent data collection, as such, the weight may be given to either sets of data; similarly, the weight may be given to both equally (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). The mixing of methods for this design occurs at data analysis or during the interpretation process (Ivankova & Creswell, 2009). One important advantage for this type of design is the time it takes to complete, in that utilising this design often takes less time than a sequential design (Creswell & Plano Clark, 2018; Ivonkova & Creswell, 2009). Differing from both a convergent design and sequential design, is an embedded design, which will be discussed next.

The last design that will be discussed is an embedded design. This design is employed when a researcher has a secondary question which requires a different type of data (Almeida, 2018; Ivankova & Creswell, 2009). In this design, a researcher typically collects primary data using either quantitative or qualitative methods, a secondary role is then assumed by the converse of that method (Almeida, 2018; Ivankova & Creswell, 2009). Though similar to a convergent design, an embedded design differs as it has a predominant method (either quantitative or qualitative) (Ivankova & Creswell, 2009). As there is a predominant method, the weight is given to that method, where mixing only occurs in the data analysis stage or at the interpretation stage (Ivankova & Creswell, 2009).

Though, mixed methods research utilises the strengths from each method, there are still several issues to address while adopting this approach. One main issue that arises when adopting this approach is time consideration (Creswell & Plano Clark, 2018; Bowen et al., 2017). Where conducting a purely quantitative or purely qualitative study may still take a considerable amount of time, a mixed methods study often requires more time to fully accommodate each method (Creswell & Plano Clark, 2018; Halcomb, 2018). As mentioned, time constraints may be particularly important to consider while using a sequential design as this type of design requires the first phase, using one method, to be fully carried out before the second phase; utilising the second method, is carried out (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009; Bowen et al., 2017; Tashakkori et al., 2012). Another important consideration for mixed methods research is the proficiency of the researcher (Creswell & Plano Clark, 2018). Some researchers choose to carry out purely quantitative research or purely qualitative research which allows the researcher to become fully competent in their method. However, with an approach utilising both methods, it is crucial for the researcher to be able to execute both methods accurately (Creswell & Plano Clark, 2018). A lack of competence in one method may cause the data sets to be skewed or may cause issues in the data analysis stage. Poorly executing one method may additionally play on the weaknesses of that method, causing an inability to fully answer a research question. In addition to this, presentation of findings may pose an issue as well (Bowen et al., 2017; Halcomb, 2018). Where sequential designs utilise one phase to help inform another phase, writing up findings as such may cause a lack of understanding of the overall investigation (Halcomb, 2018). For example, in an explanatory sequential design a researcher may use a systematic review to help inform interviews for the following phase. While presenting their findings a researcher may present the findings of the systematic review and then present the findings of the interviews; as such, the mixing of methods may be lost on the reader as they only see either the qualitative or quantitative component of the data in each study (Halcomb, 2018). Though, there may be several challenges while undertaking mixed methods research, there are also many benefits when implementing this approach for psychological research. This chapter will now provide an overview of intervention design and development and a justification of how mixed methods research is beneficial in intervention design and development.

3.4 Implementation Science and Intervention design

Evidence-based interventions are treatments based upon an array of policies, strategies, practices, and/or services that have shown effectiveness or efficacy (Walker et al., 2022). These interventions are consequential to treatment as they are rooted in tested theories and practices, yet despite having an array of resources, the development, translation and subsequent implementation of these interventions is lacking (Fernandez et al., 2019). This issue surrounding translation and implementation has been referred to as the research to practice gap and it effects the widespread impact of new interventions (Fernandez et al., 2019). Often, interventions which are proven to be effective take over a decade to be adopted into practice and can be altered without careful consideration or implemented in ways that are different than intended (Bauer & Kirchner, 2020; Fernandez et al., 2019). These issues with translation and implementation can then, effect the completeness and fidelity of programs (Fernandez et al., 2019). For example, research outlining an intervention for children who experienced abuse could include a specific parent education training program. However, issues with translation could mean providers shorten or even negate the parent training due to certain mitigating factor such as a lack of specific instruction on how to conduct the program or an absence of understanding around the program's importance. In turn, this translation issue could compromise the effectiveness of the intervention (Fernandez et al., 2019). Furthermore, without clear translation and implementation, practitioners are limited to unsubstantiated interventions ineffective in addressing targeted outcomes (DiGennaro Reed et al., 2017). This is a concern within the ASC sphere as many interventions created for individuals with ASC claim to be evidence-based, while lacking the rigorous process to be considered as such (Lindgren & Doobay, 2011). Therefore, it is important for researchers to explore ways to bridge the gap between research and practice, clearly translating best evidence in order for the implementation of substantiated interventions for target populations. In order to achieve this, there has been the emergence of the new field of implementation science (Fernandez et al., 2019; Handley et al., 2016; Lobb & Colditz, 2013).

The importance on translating best research evidence into practice has recently surged due to the field of implementation science (Fernandez et al., 2019). Specifically, this emerging field focuses on the methods, design and evaluation of evidence-based interventions in order to aid in successful and consistent implementation (Handley et al., 2016). As such, as previously discussed in chapter one, this thesis will embed each of the phases of research within the concept of implementation science. In order to do so, this section will first discuss the importance of intervention mapping, and how this, combined with the adoption of mixed-mixed methods approaches, can enable the development of more transparent and translational research. Secondly, this section will outline and contextualise the steps of intervention mapping in regards to mixed methods and the current research.

To bridge the research to practice gap, implementation science first emphasises the importance of clearly showing the evidence to be translated (Handley et al., 2016). As such, in regard to the presentation of the research completed within this thesis, each phase will be reported, followed by a discussion of key recommendations and potential avenues for the development of a tailored intervention. This will be completed through the inclusion of a logic model as outlined by intervention mapping. Within this, inputs, possible theories and assumptions, suggested target populations, and potential outputs relevant for intervention design, mechanisms for change, and potential outcomes to be targeted will be highlighted. In doing so, this thesis will contribute to the growing aim of implementation science and clearly illustrate the potential possibilities for translating this research into practice.

In creating interventions there are three important foundational factors: design, development, and evaluation (Fernandez et al., 2019; Fraser & Galinsky, 2010; Skivington et al., 2021). Intervention design refers to the systematic process of conceptualising, planning and structuring programs which implement change in a population or setting (Fraser & Galinsky, 2010). The process of intervention design involves assessing and merging existing research and theory with other forms of knowledge to specify practice goals, techniques, and conduct (Fraser & Galinsky, 2010). Akin to design, intervention development involves a series of steps which are essential in progressing an intervention (Fraser & Galinsky, 2010; Wight et al., 2015). Often, intervention development consists of identifying elements of interventions which have been effective in treating similar populations and theorising how these elements interact to impact target outcomes (Moore et al., 2019). Intervention development can also be integrated with evaluation which focuses on assessing procedures and outcomes of existing programs (Fraser & Galinsky, 2010). The integration of development and evaluation allows for interventions to be trialled and progressed (Fraser & Galinsky, 2010). However, for the implementation of such interventions, it is imperative that these stages of intervention design, development and evaluation are clearly outlined and transferable to practice contexts. Moreover, important design, development, and evaluation are important components for interventions. In discussing these, implementation science emphasises the importance of research that is transparent and translational in order to aid implementation. This thesis will align with the goals of implementation science and the initial phase of intervention design. Specifically, it will adopt the framework of intervention mapping in order to report the research findings transparently, and with the goal of being translational.

In the next section, intervention mapping will be outlined and contextualised within mixed methods research and the aims of this research.

3.4.1 Intervention mapping

Intervention mapping is a framework which was created in line with implementation science providing a systematic process and thorough protocol for intervention development (Fernandez et al., 2019). Utilising intervention mapping helps to create an evidence-based intervention which incorporates theoretical and empirical evidence requiring a relevant literature review, application of theories, new data collection, along with involvement of experts and community members (Fernandez et al., 2019). In intervention mapping, integration of methods has been viewed as an effective tool for exploring complex processes (Fetters et al., 2013). Both quantitative and qualitative methods offer unique perspective into intervention mapping, allowing for a better evidence base. There are six steps involved intervention mapping (Fernandez et al., 2019). Though, as the latter steps often involve stakeholders and time-consuming processes, such as piloting the intervention, the last steps will only be briefly outlined as they were not carried out in the current research.

Typically, the first steps in intervention mapping are to undertake a needs assessment utilising an array of approaches, including evidence synthesis and primary research, including the use of both quantitative and qualitative techniques (Goldschmidt et al., 2021; Fernandez et al., 2019). As such, utilising a mixed methods approach allows for a quantitative assessment of the issue being explored. This quantitative assessment can provide a foundation for qualitative evaluation, allowing for the topic to be further investigated (Goldschmidt et al., 2021; Fernandez et al., 2019). For the current study, there was a need to assess and understand issues associated with children with ASC who experienced physical abuse. This was done through an evidence synthesis phase, as well as quantitative and qualitative phases. In addressing the issues associated with the target population, the evidence synthesis helped to establish a need for primary research on this population. The quantitative phase then allowed for a foundational outline of highlighted issues associated with this population as well as specific recommendations. The foundation created by the quantitative phase then facilitated the qualitative phase which provided in depth data on the experiences of the target population. The second step in intervention mapping includes a logic model of change, rooted in participatory research (Fernandez et al., 2019). In this, program outcomes and objectives are realised through involving representatives from the target population, searching literature regarding determinants of behaviour, identifying theories that influence the determinants, and conducting quantitative and qualitative research for exploring unanswered questions (Fernandez et al., 2019). This step explicitly outlines using both quantitative and qualitative methods to explore unanswered questions. For the current research, the step was inherently fulfilled by its' sequential explanatory design, as the nature of this design is to explain and further explore factors which arise in previous phases. Through the information generated, the researcher can then set priorities and a finalised list of behaviour determinants to target (Fernandez et al., 2019). Quantitative methods enabled a preliminary list of behavioural determinants to be assessed, which were then further contextualised within lived experiences as captured through qualitative means. The quantitative and qualitative phases then allow for nuanced implications surrounding these determinants. The information for this step then feeds into step three which is program design (Fernandez et al., 2019).

As steps three through six include elements of developing and implementing interventions, they were not considered for this thesis. However, the steps are still outlined here as they are consequential to bridging the research to practice gap. The third step, initial ideas and theory and evidence-based behaviour change methods, are discussed for the intervention (Fernandez et al., 2019). The methods discussed should be rooted in evidence and multiple techniques can be required for a single determinant (Fernandez et al., 2019). As such, quantitative methods can be used to assess successful techniques and methods in addressing determinants, while qualitative techniques can help to determine the lived experience of said techniques as well as their practical implications. Step four discusses program production, in this stage the researcher decides the overall structure, themes, and channels of the intervention (Fernandez et al. 2019). Often, in this stage researchers and production professionals work together to ensure a final intervention which considers key methods and practical implications (Fernandez et al., 2019). For this step it is important to translate theoretical processes to practical applications (Fernandez et al., 2019). Steps five and six are concerned with a program implementation plan and an evaluation plan (Fernandez et al., 2019). The primary research which was carried for the current research provide explicit recommendations for future research to further explore this topic, facilitating possible avenues for a tailored intervention.

3.5 Positioning the current research

3.5.1 Explanatory sequential design

As discussed, mixed methods research does not follow one specific design, as with purely quantitative or qualitative research; instead, it incorporates a number of different designs (Creswell & Plano Clark, 2018). Some approaches encompass using quantitative methods alongside qualitative while others use a qualitative approach followed by a quantitative approach (Creswell & Plano Clark, 2018). Outlined above, an explanatory sequential design utilises quantitative methods which precede qualitative methods (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). In this design a researcher implements quantitative methods first, with a qualitative phase following (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009). Explanatory sequential designs are often performed in two distinct phases, though this not always the case as some researchers may use more phases (Ivankova & Creswell, 2009). In this type of design, the first study must take place in order for the second study to occur, therefore, the data is not collected concurrently as in other mixed methods designs (Creswell & Plano Clark, 2018). For an explanatory sequential design, the information from the first phase informs the next phases (Creswell & Plano Clark, 2018). As such, the main focus of this design is to use the qualitative data to explain the quantitative data (Creswell & Plano Clark, 2018). For the current research, the first phase involved a systematic review and narrative synthesis which established a need for the current research, while the second included a quantitative survey measuring Adverse Childhood Experiences in the autism population. These were both then used to help inform the third qualitative phase of research, qualitative survey's. All three phases were then used to help inform a logic model for an intervention tailored to children with autism who have experienced physical abuse.

There are many reasons why a researcher may use an explanatory sequential design (Creswell & Plano Clark, 2018). First, due to the quantitative first phase this type of design may be appealing to many researchers who are quantitatively oriented (Creswell & Plano Clark, 2018). Quantitative methods use quantifiable, or empirical, data which may allow for easier analysis and interpretation of data using a larger sample size (Barker et al., 2015). For the current research, this was a useful component as a systematic review and survey were utilised, larger amounts of data were collected. The use of quantitative data allowed for the researcher to efficiently analyse the data set and use the results to help inform the next phases. In this design, a researcher may choose to, then, collect qualitative data on extreme cases or pursue an explanation for the quantitative data (Ivankova & Creswell, 2009). Additionally, the quantitative data may help to inform the sequential qualitative phase by providing results which the researcher may feel the need to explain further (Creswell & Plano Clark, 2018). For example, the current research used a systematic review to explore interventions for children who have experienced physical abuse, in their quantitative findings it was found that a common form of therapy for children who have experienced physical abuse is trauma-focused cognitive behavioural therapy. These findings then informed the researchers qualitative survey for their qualitative phase, and the researcher choose to further explore participants experiences with this form of therapy along with other forms of therapy.

In the next sections, the specific methods used within the mixed methods design will be outlined and contextualised within the current research.

3.5.2 Evidence Synthesis

Evidence synthesis has been used as an important cornerstone in research, allowing researchers to synthesise primary data on a given topic. Evidence synthesis procures what is known and not known about a chosen area and provides a subsequent evidence base (Gough et al., 2020). This evidence base can then be used for a variety of practical implications such as intervention development or policy creation (Gough et al., 2020). There is a myriad of different methods which can be used for an evidence synthesis, for this thesis a systematic review and narrative synthesis and scoping review were utilised.

Systematic review and narrative synthesis. Quantitative data may be collected in many ways, for example, if a researcher was observing how satisfied a participant is with their therapy, they may choose to employ a survey with a likert scale. For research surrounding children with autism or individuals who have experienced traumatic events, quantitative surveys are commonly used (Creswell & Zhang, 2010; Mehtar & Mukaddes, 2010). However, for research regarding interventions for a particular population, it is important to, first, establish a need for the research, this can be done using a systematic review (Fernandez et al., 2019; Lasserson et al., 2019). A systematic review synthesises data from previous research performed on a specific topic and provides individuals with a summary of primary research on a topic (Lasserson et al., 2019).

For the current research, a narrative synthesis approach to a systematic review was adopted. Narrative synthesis refers to a textual description of findings, in attempt to summarise and explain those findings (Popay et al., 2006). Though, a researcher may commonly use a meta-analysis for a systematic review, in which they perform statistical tests on findings of the studies included, the current research included studies which were heterogeneous, preventing a meta-analysis from being performed. As such, the narrative synthesis approach was found to be advantageous for the current research. Narrative synthesis allows for a researcher to bring evidence together in a way which relays a story (Popay et al., 2006). This type of approach to a systematic review involving interventions provides insight to many facets of interventions. Where a meta-analysis may only focus on what worked in the intervention, a narrative synthesis may help determine why and how an intervention might have worked as well (McDermott et al., 2013). A narrative synthesis approach to a systematic review also offers more flexibility to accommodate various study designs (McDermott et al., 2013; Popay et al., 2006). For the current research, this allowed a larger subset of studies to be examined including case studies, and qualitative studies exploring interventions. Additionally, utilising a systematic review may provide a researcher with the knowledge of any disparities in research and may show where other studies in their area may be lacking (Lasserson et al., 2019). Incorporating a narrative synthesis approach allowed for a deeper understanding of the research area and allowed for the researcher to identify, not only a need in research, but a need for more standardised research designs.

While performing a systematic review it is important for a researcher to consider time constraints. As performing a systematic review requires a researcher to compile many different studies from various data bases, it requires much time and effort (Braun & Clarke, 2013). Though, an advantage to performing a systematic review is it utilises quantitative data, which allows for a quicker and more efficient analysis (Braun & Clarke, 2013). For the current research, the researcher undertook a training course in conducting a systematic review through Johns Hopkins University. Throughout the systematic review process, the researcher also consulted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA); this provided a checklist of items along with a flow diagram that set out all components of the systematic review (Page et al., 2021). Additionally, to ensure quality checks for each study, the researcher utilised the Risk of Bias tool and checklists for each study from the Joanna Briggs Institution (Higgins et al., 2019; Joanna Briggs Institute, 2017). Consulting these tools allowed the researcher to conduct a high-quality systematic review for the current research; an important tenet for conducting mixed methods research (Halcomb, 2018).

Data extraction in the systematic review provided crucial insight for intervention development. In the current research a template for intervention description and replication (TIDieR) was utilised (Hoffman et al., 2014). TIDieR consists of a 12 item checklist which outlines, the name of the intervention, why it was used, what materials were used, what the procedure was, who provided it and how, where it was provided, when and how much it was provided, tailoring involved in the intervention, modifications that were involved, how well it was planned, and how well it actually went (Hoffman et al., 2014). As such, these details were extracted from articles included in the systematic review. The data from TIDieR can then be used in conjunction with data from other reviews, such as the scoping review, discussing theoretical underpinnings of interventions. This compilation of data then allows for practical application techniques to be created (Fernandez et al., 2019).

Scoping review. Scoping reviews are similar to systematic reviews, in that they review primary research on a particular topic (Peters et al., 2015). As with systematic reviews, scoping reviews are rapidly becoming a useful strategy in evidence-based practice (Peters et al., 2015). Scoping reviews have been found to be particularly beneficial while synthesizing data on a topic which has not been extensively reviewed or is of a complex nature, such as trauma and ASC (Pham et al., 2014). These types of reviews use similar processes to systematic reviews and provide the same rigour and transparent methods (Pham et al., 2014). Scoping reviews provide important data on a topic and allow for a broader topic area than systematic reviews (Pham et al., 2014). This aspect was particularly use for the current research as there are numerous studies on different types of interventions for ASC.

For the current research, a scoping review was utilised as interventions for ASC has already been widely researched, therefore there was not an overarching need to update the evidence base. However, conducting a scoping review allowed for current insight into these interventions. Generally, scoping reviews are useful to gather a wide breadth of information on a topic (Peters et al., 2015). These types of reviews are seen as more comprehensive than systematic reviews as they often aim to provide an overview on a given topic (Peters et al., 2015). Scoping reviews are also useful as they provide information on, not only a given topic, but on the way research has been conducted (Peters et al., 2015). For the current research, the latter notion was important as assessing the current evidence base include assessing how research on interventions for ASC is conducted.

Though, scoping reviews can be performed in different fashions, for the current research a systematic scoping review was conducted. Similar to a systematic review, a systematic scoping review follows a protocol with clear objectives and details of plans (Peters et al., 2015). For the current research, the protocol which was established for the systematic review was utilised as a base for the scoping review. In that, the research consulted PRISMA and utilised quality checks by Joanna Briggs Institute to assess studies (Page et al., 2021; Joanna Briggs Institute, 2017). Additionally, data extraction for this scoping review utilised the TIDieR checklist to extract data regarding interventions. Utilising the TIDieR checklist allowed for extraction of useful components which have practical implications for therapeutic use. Performing a scoping review in a systematic way allowed the researcher to thoroughly assess the current evidence on interventions for children with ASC, which provided important implications for future research.

Both of these reviews can provide useful insight into intervention development. These reviews allowed for evidence to be gathered to help fully understand the topic, as is necessary in intervention creation (Fernandez et al., 2019). The evidence synthesis provided insight into current interventions on both children who experienced physical abuse and children with ASC. Utilising TIDieR then provided information on intervention components used for each, as well as identifying tailored techniques. Additionally, each review gave an overview of behavioural, cognitive, and socio-emotional issues involved in interventions for children who experienced physical abuse and for children with ASC. As such, the evidence synthesis allowed for identification of the issue and provided necessary information for the next stages of research.

3.5.3 Quantitative Survey

As discussed, there are many different ways of utilising quantitative methods in psychological research. In addition to systematic reviews, researchers most often use surveys to collect data (Creswell & Plano Clark, 2018). Online surveys, specifically, allow for data to be collected quickly and reduce the cost of manually managing data (Bowen et al., 2017). In addition, online surveys can be used to reach a wider range of individuals providing a wider view of the population.

With quantitative research, there are also well-developed theories surrounding reliability and validity, something which can be much harder to assess in qualitative research (Barker et al., 2015). Reliability and validity are crucial to any research as they are concerned with the repeatability of the research and with how well the research measures what it is intended to measure. This strength is pivotal for the current research as this research aims to provide a foundation for a tailored intervention.

In this, the quantitative phases involved in the current research provides a foundation for empirical data measuring behaviour determinants. This can allow the researcher to, more easily, identify which patterns and behaviours should be included which is a crucial part of intervention development. The qualitative data then allows the researcher an opportunity to explore these factors more deeply and determine the breadth of the impact they have on the population. The quantitative survey allowed for new data collection and more numerical insight into the prevalence of Adverse Childhood Experiences and their associated characteristics in the ASC population.

Though quantitative measures have many benefits, they also have limitations. One such argument posits that quantitative measures tend to limit individual's experiences (Hesse-Biber, 2010; Mehtar & Mukkaddes, 2010). As quantitative methods often use a large sample size, participants experiences may be, quite literally, put into a box (Mehtar & Mukkaddes, 2010). Utilising these methods alone, may not allow the researcher to explore their topic in detail and have instead, been discussed as only providing surface level data of a greater area (Hesse-Bieber, 2010). However, using an explanatory sequential design addresses this issue as it utilises qualitative methods to explain and explore a topic more deeply (Creswell & Plano Clark, 2018). For the current research, a qualitative survey was used in conjunction with quantitative methods.

3.5.3 Qualitative survey

As discussed in this chapter, qualitative methods help to provide an in-depth view into a researcher's topic (Bowen et al., 2017; Braun & Clarke, 2013; Creswell & Plano Clark, 2018; Tashakkori et al., 2012). Qualitative methods favour open-ended questions, which help to ensure a rich, contextual data set (Braun & Clarke, 2013). This method uses an interpretive approach to data collection and often encompasses a wide range of different research tools (Braun & Clarke, 2013; Creswell & Plano Clark, 2018). Differing from quantitative methods, qualitative research commonly focuses on smaller populations, which allow for richer explanations (Braun & Clarke, 2013; Creswell & Plano Clark, 2018). As such, qualitative methods in an explanatory sequential design are used to explore data gathered from the quantitative set more deeply (Bowen et al., 2017; Creswell & Plano Clark, 2018). Often times in research, unexpected question to data collected arise (Tashakkori et al., 2012). For example, a researcher exploring interventions may have found that participants were overwhelmingly unhappy with one aspect of their intervention. A researcher may not have intended for this to happen, yet they may find it important to explore the reason behind why it happened. As such, an explanatory sequential design allows for an opportunity for a researcher to address these questions through their qualitative phase (Tashakkori et al., 2012). For the current research, qualitative surveys were used for adults with ASC who experienced childhood physical abuse and for parents, guardians and caregivers of children with ASC who experienced physical abuse.

Qualitative surveys provide openness and flexibility to address a plethora of research questions (Bruan et al., 2020). Where interviews allow for a deep exploration into an experience or topic and surveys allow for a larger collection of data, qualitative surveys offer a unique ‘wide-angle lens’ on a specific topic (Bruan et al., 2020). For the current research, a literature review determined that research on interventions for children with autism who have experienced physical abuse is lacking. As such, qualitative surveys were used to capture experiences from individuals in this population. Thie wide-angle lens of qualitative surveys allows potential to depict a range of perspectives and experiences, which can be a crucial component in exploring an under-researched area (Braun et al., 2021). The qualitative data collected for this phase allowed for a deeper insight into the experiences of participants including insight into therapeutic techniques they found most successful. This data builds on the information provided by the evidence synthesis and quantitative phase as it provides real life experiences of the current issue.

Moreover, the versatility of this mode of data collection also allows for a larger set of individuals to be reached. This is important as the diversity of voices heard matter for both the validity and quality of knowledge (Bruan et al., 2021). Additionally, qualitative surveys are useful for gathering in-depth information in a more simplistic fashion than traditional interviews. They allow for a participant to answer at their own pace and may feel less invasive than a one-on-one interview. These aspects are important when considering research into a sensitive topic area, like in the current research (Braun et al., 2021). Qualitative surveys approach sensitive topics with a higher level of felt anonymity than one-on-one interviews, which may lead a participant to feel more anonymous when divulging more information, potentially leading to more information to be disclosed (Braun et al., 2021).

Though, one critique typically offered when discussing qualitative surveys is the depth of data being lost (Braun et al., 2021). As some qualitative survey responses may only provide surface level recounts, an argument is made that data from interviews may be richer. A retort to this critique discusses how, although some responses may be surface level, there may also be some which provide valuable accounts and perspectives (Braun et al., 2021). As qualitative surveys are able to reach a wider and larger number of people, the data complied may still provide as much richness as fewer interviews. In utilising qualitative surveys, it is, instead, important to focus on the research question and how a qualitative survey might provide a deep and complex look into the area.

3.6 Conclusion

Mixed methods research allows a researcher more freedom within their study, and instead emphasises what the researcher feels may be most important. It allows for a more well-rounded data set, which facilitates a deeper understanding of the topic the researcher is exploring (Creswell & Plano Clark, 2018; Ivankova & Creswell, 2009; Tashakkori et al., 2012). As mentioned, to facilitate intervention mapping it is necessary for a researcher to incorporate relevant literature, application of theories, new data, and involvement of experts and community members (Fernandez et al., 2019). For the current research, these were addressed through each phase of data collection. The systematic review facilitated data collection for current interventions used for children who have experienced physical abuse, along with a template for intervention description and replication (TIDieR, this will be discussed further throughout this chapter), new data was also collected through the quantitative survey phase measuring the prevalence of Adverse Childhood Experiences and abuse, along with their associated characteristics, experts were involved in the qualitative survey, and community members were included throughout the quantitative survey and interviews. A mixed methods approach fits well with the intervention mapping techniques as mixed methods provides a greater comprehension of the issue and current interventions in place. The qualitative component of mixed methods allows the researcher to explore the participants experiences of interventions and of the issue being addressed; while the quantitative component offers a numerical narrative (Goldschmidt et al., 2021). Together, these methods provide a foundation for a logic model for an intervention tailored specifically to children with autism who have experienced physical abuse.

This chapter discussed the debates surrounding quantitative and qualitative methods which gave way to a paradigmatic vacuum, allowing for a rise in mixed methods research. It discussed the methodology utilised in the current research and how these methods assisted in creating a logic model for an intervention tailored specifically to children with autism who have experienced physical abuse. This thesis will now move on to presenting the evidence synthesis.

Chapter Four: Evidence synthesis

Determining the Current Evidence Base of Interventions for Children with ASC and Children Who Experienced Physical Abuse

4.1 Introduction

This chapter will provide an overview of current interventions for children who experienced physical abuse and interventions for children with Autism Spectrum Condition (ASC). First, the evidence synthesis will be contextualised by situating the current understandings surrounding Adverse Childhood Experiences (ACEs) and their implications on adult and child well-being (ACEs). Next, the link between ASC and ACEs will be explored, following will be a discussion surrounding physical abuse as an ACE. Subsequently, in addressing the overarching aim of gathering information on current interventions for children with ASC who experienced physical abuse, a systematic review and narrative synthesis of interventions for children who experienced physical abuse and a scoping review on interventions for children with ASC will be presented. Finally, the results for both reviews will be further discussed in line with the overarching aims and objectives of this thesis.

4.1.1 Childhood experiences and wellbeing

Childhood experiences are consequential to overall well-being; in that, negative or traumatic experiences have been found to have a negative impact on both mental health (e.g. cognitive functioning, depression, and anxiety) and physical health (e.g. liver disease, Irritable bowel syndrome, and cancer; Boullier & Blair, 2018; Copeland et al., 2007; Felitti et al., 1998; Sprang, 2009). As outlined in Chapter one, ACEs are conceptualised as potentially traumatic childhood experiences (Berg et al., 2016; Boullier & Blair, 2018; Felitti et al., 1998). Exposure to ACEs has been linked to various mental and physical health consequences which impact well-being (e.g. mood disorders, depression, anxiety, eating disorders, obesity, cancer, chronic pain, and risky health behaviours such as smoking or excessive drinking; Boullier & Blair, 2018; Felitti et al., 1998; Craner et al., 2022; Tink et al., 2017). Additionally, exposure to ACEs has been seen to affect other facets of life such as, poverty levels, education levels, and job security (Metzler et al., 2016).

As the impact of ACEs on well-being is clearly documented, it is important to also understand their prevalence in order to fully appreciate the scope of their implications. One may think that only a small percent of the population experience ACEs; however, studies report that on average about half of the adult population have experienced at least one ACE, with one systematic review recently uncovering that 75% of respondents around the world have been exposed to an average of three ACEs (Boullier & Blair, 2018; Bellis et al., 2014; Pace et al., 2022). Research suggests that, although rates are lower for exposure to four or more ACEs with only 9 to 14% of the population experiencing this, the negative implications are greater (Boullier & Blair, 2018; Bellis et al., 2014). These rates of ACE exposure are concerning given the outcomes reported above. Despite the well documented impact of ACE exposure, they are not commonly researched in populations other than neurotypical adults (Boullier & Blair, 2018). However, ACEs are experienced in childhood, the associations surrounding childhood well-being and ACE exposure are crucial to understanding and exploring their nuanced impact.

Until recently, overall health risks associated with ACEs were only observed in the adult population (Bouiller & Blair, 2018; Finkelhor, 2018; Lee et al., 2020; Negriff, 2020). However, more recent findings have shown that ACE exposure may also lead to overall negative well-being in children, with children as young as three presenting double the risk of health issues after exposure to at least one ACE (Clarkson Freeman, 2014; Flaherty et al., 2009; Flaherty et al., 2006; Kerker et al., 2015; Turney, 2020). Additionally, research has shown that children are more likely than adults to report ACE exposure, with 90% of children in one study reporting exposure to at least one ACE before 14 years old and 70% experiencing exposure to three or more ACEs in another study (Clarkson Freeman, 2014; Flaherty et al., 2013; Flaherty et al., 2006; Kerker et al., 2015). As the impact of exposure to ACEs is not limited to adults, these findings highlight the importance of exploration of ACEs within childhood populations. Exploring ACE exposure in the childhood population would allow for better treatment and assessment of these experiences, facilitating improved well-being and protecting against long term negative implications.

As such, these findings have urged researchers to view ACEs through a ‘lifespan perspective’, accounting for both children and adults (Sabina et al., 2015; Clarckson Freeman, 2014; Flaherty et al., 2006; Flaherty et al., 2009; Kerker et al., 2015). Adopting this perspective is crucial in understanding the effects and treatments for children exposed to ACEs (Baynard et al., 2017; Clarkson Freeman, 2014; Flaherty et al., 2006; Flaherty et al., 2013; Kerker et al., 2015). Research which has adopted a lifespan view has found a similar link between the negative mental and physical health consequences found in adults, in children as well. Children exposed to ACEs have a higher Body Mass Index (BMI) and a higher resting heart rate, potentially leading to a more significant risk of cardiovascular disease later in life (Pretty et al., 2013). ACE exposure in children may also lead to poorer overall health including links to breathing issues, such as asthma, or even allergies (Turney, 2020). In addition to physical health issues, children exposed to ACEs are more likely to have issues such as depression, anxiety, and learning or behavioural issues, along with long-term behavioural issues, including internalizing and externalizing problems or developmental disorders which affect behaviour (e.g., Attention Deficit Hyperactivity Disorder; ADHD; Clarkson Freeman, 2014; Greeson et al, 2014; Hunt et al., 2017; Turney, 2020). As with adults, exploring and understanding ACE exposure in children is consequential to identifying needs associated with improved childhood well-being. As such, it is first important to understand the individual experiences which are considered ACEs and their implications in all childhood populations (Briere & Elliot, 2003; Burke et al., 2011; Felitti et al., 1998; Springer et al., 2003; Springer et al., 2007). Understanding the individual experiences associated with ACEs can help to address the nuanced impact each experience has, in turn, leading to better treatment.

4.1.2 Childhood physical abuse as an ACE

Though exposure to any type of ACE impacts well-being, studies have recently explored the different subtypes of ACEs and their individual impact on mental and physical health (Narayan et al., 2017; Negriff, 2020; Ramiro et al., 2010; Schalinski, 2016; Wade et al., 2016). Types of ACEs examined include household dysfunction (e.g. parental separation, or family member substance abuse), and maltreatment, including neglect, exposure to domestic violence, emotional abuse, sexual abuse, and physical abuse (Negriff, 2020). Maltreatment was found to be the most prevalent predictor of negative health outcomes for both mental (e.g. depressive symptoms, trauma symptoms, anxiety symptoms, and externalising behaviour) and physical health (e.g. high risk sexual behaviours, cardiovascular disease, and asthma; Narayan et al., 2017; Negriff, 2020; Ramiro et al., 2010; Schalinski, 2016; Wade et al., 2016).

Additionally, community-level stressors (e.g., living in an unsafe neighbourhood, and exposure to community violence) have been observed to have less of a negative impact on mental health and physical health outcomes than childhood maltreatment (Wade et al., 2016). As different subtypes of ACEs have differing impacts, identifying, and exploring these differences is crucial in determining the therapeutic needs of children who are exposed to ACEs (Negriff, 2020; Wade et al., 2016). Determining these differing impacts would allow for more tailored treatment and better assessment of the impact of individual ACEs.

Though exploration into all forms of maltreatment (including, neglect, exposure to domestic violence, emotional abuse, sexual abuse, and physical abuse) have been found to be linked to worse mental and physical health outcomes, physical abuse in particular typically has greater discrepancies in research (Adams et al., 2018; Springer et al., 2007; Zeanah & Humphreys, 2018). Physical abuse is defined as any instances in which a person is violent or aggressive towards another person resulting in injury, this includes hitting, shaking, drowning, and burning another individual, as well as any instance where an individual contrives, or intentionally causes, symptoms of an illness in another person (National Society of Prevention of Cruelty to Children, 2022). Physical abuse, in particular, has been associated with health concerns in adolescents and adults including enduring high-risk behaviours (e.g., smoking, drug use, and risky sexual behaviours) along with mental health issues (e.g., depression, anxiety and anger; Springer et al., 2007). Additionally, childhood physical abuse has been associated with higher rates of psychiatric disorders such as attention deficit hyperactive disorder and bipolar disorder, reported in adulthood (Springer et al., 2007; Sugaya et al., 2012). However, research surrounding the prevalence and incidence of physical abuse is conflicting. In two studies observing differing types of ACEs, physical abuse was found to be the second most experienced form of abuse. One study reported that a majority of children less than six years old having experienced physical abuse (Clarkson Freeman, 2014; Wade et al., 2015). However, in other studies physical abuse was found to be reported significantly less (Finklehor, 2020; Negriff, 2020). There are a number of reasons for these disparities of physical abuse in ACE studies. As reports of physical abuse are often varied in ACE studies, it is not as widely researched as other forms of maltreatment such as sexual abuse or emotional abuse; however, it is still a pervasive ACE and as such, research on childhood physical abuse warrants further exploration (Finkelhor, 2018). Exploration into physical abuse would facilitate improved insight into the nuanced impact of this particular type of ACE, thus aiding treatment and care for this population.

4.1.3 Childhood physical abuse and ASC

As discussed in Chapter One, children with ASC are more likely to experience certain subtypes of ACEs, among these subtypes is physical abuse (Andrzejewski et al., 2023; Dodds, 2021; Hoover & Kaufman, 2018). As outlined above, childhood physical abuse causes an array of issues pertaining to childhood well-being. In particular, children with ASC who experience physical abuse tend to experience more intrusive thoughts, irritability, and lethargy, as well as depressive symptoms (e.g. withdrawal, loss of interest, and distressing thoughts; Brenner et al., 2018). Despite this finding, assessing and reporting trauma in the ASC population is difficult due to a number of factors, causing difficulty in treating this population (Brenner et al., 2018; Mehtar & Mukkades, 2011). Often, while identifying and treating traumatic experiences such as physical abuse, and their consequences, Post Traumatic Stress Disorder is used as a common indicator (PTSD; Finklehor, 2018). However, as aforementioned in Chapter One, PTSD is difficult to assess in children with ASC as there are overlaps in symptomology (De Young & Landolt, 2018; Prock & Folger, 2018; Mehtar & Mukkaddes, 2011). Due to this overlap in symptomology, it can be difficult for parents to receive a recommendation to treatment for their child (Mehtar & Mukkaddes, 2011; Prock & Folger, 2018).

Treatment for children with ASC who experience physical abuse is important as research suggests that families who receive treatment fare better than most families who do not receive treatment (Hernandez-Gonzalez et al., 2023). Understanding the nuanced impact that physical abuse has outside of PTSD symptomatology would facilitate better care for those who need it. As PTSD is often used as an indicator for abuse, there is a need to better understand the impact physical abuse has on individuals outside of PTSD symptomatology. This understanding would help facilitate the creation of better treatments for those who may not fit the PTSD criteria. This gap in research causes difficulty in assessing abuse and treatment for this population. As such, there is a need for better, more insightful, exploration into this area to help identify abuse physical abuse, and its impact in the ASC population, which will further facilitate treatment needs. Additionally, the sparseness of research into physical abuse in ASC reduces the potential for investigations into therapeutic interventions for this population.

As such, this thesis aims to provide insight into the needs of children with ASC who experienced physical abuse to provide recommendations for a tailored intervention for this population. Whilst a synthesis and review of current interventions for children with ASC who experienced physical abuse was intended, the scarcity of the literature on this topic led to a change in this phase. First, the scope of this phase was widened such that a systematic review investigated interventions for all children who experienced physical abuse. Second, a scoping review was performed to investigate interventions for children with ASC. Subsequently, the aims of this evidence synthesis were to assess and determine the efficacy of current interventions in place for children who experienced physical abuse and current interventions in place for children with ASC.

This chapter will now report on the evidence synthesis. First, it will report on the systematic review and narrative synthesis including the methods, results, and a subsequent discussion. Then it will discuss the scoping review including the methods, results, and a discussion. Lastly, it will provide an overview of the evidence gathered from this phase which could inform a future intervention, along with a presentation of the evidence used for the logic model.

4.2 Systematic review and narrative synthesis on interventions for children who have experienced physical abuse

Consistently, research has demonstrated that childhood is an important period in the development and formation of relationships (Ainsworth et al., 1978; Bowlby, 1973; Ein-Dor & Hirschberger, 2016; Fearon & Roisman, 2017; Sprang, 2009). Positive childhood interactions and experiences have an array of positive biological and psychological effects including high self-esteem and the ability to create more trusting relationships (Sprang, 2009). Conversely, negative and traumatic experiences can be detrimental to both mental (e.g., depression, anxiety) and physical health (e.g., cancer, liver disease; Boullier & Blair, 2018; Copeland et al., 2007; Felitti et al. 1998; Sprang, 2009). As noted in the previous chapter, ACEs are particularly important to understand further as research has linked them to poor physical and mental health in adulthood (Briere & Elliot, 2003; Burke et al., 2011; Felitti et al., 1998; Springer et al., 2003; Springer et al., 2007). Indeed, exposure to four or more ACEs has been linked to an increased risk of hazardous substance use, depression, and obesity (Boullier & Blair, 2018; Felitti et al., 1998; Tink et al., 2017; Gilbert et al., 2015). Though much of the research on ACEs has been conducted using an adult population, exposure to at least one ACE has been found to nearly double the risk of poor overall health in children as young as three (Flaherty et al., 2006; Flahtery et al., 2018). As such, while scant, findings are indicative of negative consequences when ACEs are experienced for both adult and child populations, suggesting a clear need for effective treatment for both populations.

Treatment for ACEs can differ depending on the impact of the specific ACE experienced (Finkelhor, 2018). For example, referrals to trauma treatments are common among adults who experienced multiple ACEs, including different forms of abuse (Finkelhor, 2018). Currently, therapeutic interventions targeting ACEs differ depending on the specific ACE experienced; with a great deal focusing on Childhood Sexual Abuse (Briere & Elliot, 2003; Springer et al., 2007), while often overlooking other forms of abuse such as physical abuse. This is problematic, in part due to the rarity for a single type of abuse to occur in isolation (Springer et al., 2017). Furthermore, such singularity can result in neglecting more nuanced implications associated with sub-types of abuse while ignoring the need for tailored or more specialised interventions (Frost & Dolan, 2021; Springer et al., 2007). For example, physical abuse has been associated with higher levels of internalising behavioural issues compared to those who experienced Childhood Sexual Abuse (Kiser et al., 2014; Petrenko et al., 2012). The importance of recommending specific treatment for multiple ACEs is seen more in the adult population, where referrals to trauma treatments such as Trauma-Focused therapies or PTSD are common (Finkelhor, 2018). This highlights the importance of capturing the nuanced implications associated with the types of abuse experienced, and subsequent therapeutic needs. As such, exploring different forms of therapy, or combinations of therapy, relevant to different types of abuse is crucial.

4.2.1 Current therapies for physical abuse

Commonly, two forms of therapy are used to reduce the effects of childhood physical abuse; attachment-based therapy and trauma-focused cognitive behavioural therapy (Allen, 2013; Black et al., 2012; Cohen et al., 2007; Cohen & Mannarino, 2008; Sprang, 2009). Attachment-based therapies, such as Attachment-based family therapy, are based on attachment theory originated by Bowlby. These therapies act to improve the relationship between the child or adolescent and their caregiver (Parish-Plass, 2008). Such therapies are based on evidence that child victims of abuse typically develop insecure attachments with caregivers, resulting in maladaptive behaviours when in non-dysfunctional environments (Crittenden, 1992; Parish-Plass, 2008). For example, a child who develops an insecure attachment will experience difficulties developing trust with adults, creating issues for anyone in an authoritative or caregiving role (Parish-Plass, 2008). Children in these circumstances are likely to maintain these maladaptive strategies throughout adulthood if they do not receive proper treatment (Parish-Plass, 2008). While attachment-based therapy may be beneficial in repairing and building relationships, it does not always focus on behavioural management or cognitive concerns (Diamond et al., 2016). For example, an important pillar in attachment-based therapy is rebuilding familial relationships through family or individual sessions (Diamond et al., 2016). However, the focuses of these sessions are not centred on addressing behavioural problems often seen in children who experience physical abuse (e.g. aggression, inappropriate sexual behaviour and oppositional behaviour; Cohen et al., 2011). Instead, attachment therapy focuses on root issues involving attachment as these behaviours are seen as stemming from insecure or dysfunctional attachments (Diamond et al., 2016; Hughes, 2004). To ensure that attachments are the key focus, the first step in attachment therapy is to actively change focus from the patient’s symptoms (e.g., their physical aggression, oppositional behaviour, etc.), to the parent and child attachment (Diamond et al., 2016). This has been shown to improve familial relationships and overall well-being (Diamond et al., 2016). However, as behavioural issues are not addressed, externalised behaviours may still be present.

In contrast, Trauma-Focused Cognitive Behavioural Therapy (TF-CBT; Black et al., 2012; Cohen & Mannarino, 2008; Thornback & Muller, 2015), specifically designed for children aged three to 18 years old (Cohen & Mannarino, 2008), is rooted in

Cognitive Behavioural Therapy, which primarily focuses on changing thoughts and behaviours in alleviating aversive psychological symptoms (CBT; Black et al., 2012). This is important as children who have experienced physical abuse tend to have higher rates of internalising behavioural concerns, leading to higher rates of anxiety, depression, and teenage suicide (Liu et al., 2011).

Research into the effectiveness of these two types of therapy is lacking. However, there is some evidence to suggest that attachment-based therapies may be more effective for younger children because of their increased dependence on primary caregivers (Zilberstein, 2014). Whilst TF-CBT addresses this to some extent, it does not always include the parent or caregiver, which is an important step in repairing and building healthy relationships (Cohen et al., 2007; Cohen & Mannarino, 2008). Additionally, TF-CBT typically utilises exposure-based techniques to gradually remind the child of the trauma (Cohen & Mannarino, 2008), although some clinicians focus instead on skill-building and relaxation or coping strategies (Becker et al., 2004). Importantly, whilst these two approaches are considered standard in treating this population, updated research into therapeutic approaches is lacking. In particular, research into treatments specifically for physical abuse is scarce. Therefore, it is important for an updated evidence base on treatments for children who experienced physical abuse.

The variation in how treatments are conducted and the populations for which they are used highlights a clear need for a systematic review of the evidence to date. This review explores interventions for children who have experienced physical abuse, with three key aims:

- to determine the efficacy of current interventions in place for children who have experienced physical abuse,
- to determine the most improved areas of specified outcomes while using current interventions in place for children who have experienced physical abuse,
- to determine successful methodologies of current interventions in place for children who have experienced physical abuse.

Subsequently, recommendations will be made utilising this review and the scoping review, forming the basis for initial recommendations on integrated ASC and physical abuse interventions and therapeutic approaches.

4.3 Methods

The protocol for this systematic review is registered with PROSPERO (CRD42021248576) in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement for systematic reviews (PRISMA; Page et al., 2020). Additionally, the narrative synthesis for this review was completed using the guidance by Popay et al. (2006), to assess the effectiveness of interventions used for children who have experienced physical abuse. The steps guiding the narrative synthesis are outlined below in the *Data Synthesis* section of this chapter. Additionally, quality assessments were performed using the Risk of Bias tool (Higgins et al., 2019) and Joanna Briggs Institute quality assessment checklists (JBI, 2020).

Definitions

For this review, physical abuse was defined as any instance where an adult in a caregiving position caused physical harm to a child, including instances where a child is hit, shaken, thrown, burnt, drowned, suffocated, or any time a caregiver contrives symptoms of, or intentionally causes an illness in a child (National Society for the Prevention of Cruelty to Children, 2020).

Eligibility Criteria

As set forth in the Cochrane Handbook for Systematic Reviews of Interventions, review authors need to pre-specify criteria for studies in the review (Higgins et al., 2019). The Cochrane Handbook suggests utilising Population, Intervention, Comparison(s)s, and Outcome as key components to inform the eligibility criteria (PICO; Higgins et al., 2019).

First, population was determined as:

1. Children who have experienced physical abuse while in childhood, aged 0-18 years old
2. Children who are receiving or who have been involved in any therapeutic intervention involving childhood physical abuse. Including those:
    a. Who have received treatment in the past

b. Who are currently receiving treatment

Next, intervention was determined:

Any interventions which are used to treat childhood physical abuse. Interventions can be aimed at treating:

1. Childhood abuse (physical abuse must be specified as one of the types of abuse treated).

The condition was then specified as: Interventions used to treat children who have experienced physical abuse.

Outcomes were then considered and specified in the inclusion criteria stage.

Search strategy

The search strategy was developed in line with the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al., 2019). The Handbook suggests using Population, Intervention, Comparison(s), and Outcome, or PICO, as a guideline to inform the eligibility criteria which then informed the search strategy (Higgins et al., 2019). To develop the search strategy, the eligibility criteria was determined, then following the PICO guideline the keywords for the search were defined. The keywords were as follows: 'treatment' OR 'therapy' OR 'intervention' and 'child physical abuse' OR 'child abuse' OR 'child maltreatment.' As research often uses the terms 'child abuse' or 'child maltreatment' to include multiple forms of abuse, including physical abuse, these keywords were determined to be appropriate for the search.

As in line with the Cochrane Handbook guidance, searches were conducted through the University of Gloucestershire Library Discovery service to ensure that the search was as extensive as possible. Additionally, utilising the University of Gloucestershire Library Discover allowed for specialty data bases to be searched such as PsychINFO. Searches were then completed electronically using the following databases: PsychINFO (1806 to present); National Institute for Health Research (NIHR) for ongoing studies/trials; The Cochrane Central Register of Controlled Trials (2000 to present); Elsevier ScienceDirect Journals, University of Gloucestershire Library Discovery; WorldCat.org; Wiley Online Library; WorldCat; MEDLINE; ArticleFirst; SpringerLink; Electronic Collections Online; Education Resources

Information Center (ERIC); Electronic Books; OAIster; ABI/INFORM Global; ScienceDirect; WorldCat Dissertations and Theses; Emerald Group Publishing Limited; SAGE Journals; Directory of Open Access Journals, ProceedingsFirst, Oxford Journals, PapersFirst, GPO Monthly Catalog, JSTOR Biological Sciences Collection; ACM Digital Library; Oxford Art Online; Humanities International Complete; Walter de Gruyter eJournals; JSTOR Arts & Sciences V Collection; Business Source Complete; SocINDEX with Full Text (1881 to present); CINAHL with Full Text (1964 to present); APA PsycArticles; Psychology and Behavioral Sciences Collection (1943 to present). Citations were managed using Endnote software.

Grey literature was not searched for this review due to a number of reasons. Often, grey literature does not include peer reviewed articles. Peer reviewed articles allow research to maintain a high authenticity as well as protect the integrity of research (Kelly et al., 2014). Additionally, grey literature provides difficulty in replicating results as searches are not likely to provide exact results (Adams et al., 2016). Replicating search results in a review is consequential to transparent research which allows less biased research (Adams et al., 2016).

Inclusion criteria

The PICO guideline set forth in the Cochrane Handbook was utilised for determining inclusion criteria in this review (Higgins et al., 2019). The review PICO was implemented at the protocol stage to determine the research question and the determine eligibility of the studies (Higgins et al., 2019).

Hierarchical inclusion criteria were established as per the Cochrane Handbook (Higgins et al., 2019). No start date or language restrictions were specified due to the sparse results. Criteria are listed below:

(1) Studies include children, 0-18 years old, who have experienced physical abuse/neglect/maltreatment/victim of domestic violence (where physical abuse is reported within).

(2) Studies are either an RCT, CT, intervention Study, case study, or pre-post design.

(3) Studies include outcome measures on at least one of the following: Behaviours, Social-emotional, Cognitive functioning.

Following a preliminary search, accessibility of the article was added as a fourth requirement. This requirement was added to specify that the full article needed to be accessible in any way to the researchers (e.g. an English translation of the study and availability in an electronic format (e.g. via a document sent through email, PDF, word document, or through a website).

Screening, Inclusion and Data extraction

Primary and secondary screening was completed by K.P. and D.S.-L., with discrepancies resolved by K.S. Data from included articles were then extracted into a custom spreadsheet in Microsoft Excel by K.P. The following data were extracted; study aims, methodology, participants, data collection and analysis, and strengths and limitations. Additional data was extracted using the Template for Intervention Description and Replication checklist (TIDieR; Hoffman et al., 2014). TiDieR includes extracting information about intervention characteristics such as mode of delivery, intensity of intervention, who provided, tailoring or modifications and where the intervention was delivered (Hoffmann et al., 2014). The TiDieR checklist allows for better reporting and replicability of interventions (Hoffmann et al., 2014).

Data synthesis

A narrative synthesis was chosen as the method of synthesis for to assess current interventions in place for children who experience physical abuse; no meta-analysis was conducted due to the heterogeneity of the articles included and the lack of necessary data provided in the articles. Narrative synthesis is a textual approach to synthesis, often used when meta-analyses are not acceptable for the review (Popay, et al., 2006).

Whilst Popay et al.'s (2006) guidance discussed an initial step regarding Theory of change; this was not carried out for the current review due to the varied theoretical underpinnings of each intervention discussed in this review (indeed, Popay highlight that this step will not be appropriate for all reviews). However, the remaining steps ([1] a preliminary synthesis, [2] exploration of relationships, and [3] assessment of the robustness of the synthesis) were followed within the current review. Preliminary synthesis is described as one of the most important parts of the review as it allows for patterns or similarities between articles to emerge. This step can be performed in different ways, such as using tabulation or creating textual descriptions. For the current review, a preliminary synthesis was performed by K.P., following the initial data extraction, in which summaries of each article were created. The summaries included the same information from each article including population characteristics, intervention characteristics, study design, and outcomes. Alongside the preliminary synthesis, an exploration of relationships was completed. Here, factors which might explain differences in effects across the included studies were considered. The third step performed for this review included the assessment of the robustness of the synthesis. This step is important in determining the trustworthiness of the synthesis and the robustness. Popay et al. explain that this often refers to the methodological quality of the primary studies included, as well as the trustworthiness of the result of the synthesis process. For this step, the necessary quality appraisal tools were identified by the research team and a quality appraisal was performed for each article by K.P. Alongside these steps, factors which might explain differences in effects across the included studies were considered, and the robustness of the synthesis was assessed (by K.P.) to determine the trustworthiness and robustness of both the methodological quality of the primary studies included and of the synthesis process itself.

Assessment of risk of bias and robustness in included studies

Given the heterogeneity of the study designs, four different quality assessment tools were used (see Table 4.1 on page 81). An adapted version of the Cochrane's risk of bias (Higgins et al., 2019) assessed seven studies on categories of low, high, or unclear risk of bias (Carrion et al. 2013; Dauber et al. 2015; Farkas et al. 2010; Konanur et al. 2015; McCullough & Mathura 2019; Purvis et al. 2015; Taussig & Culhane, 2010). The areas of risk included: random sequence generation, allocation concealment, secretive outcome reporting, and incomplete data.

A checklist for quasi-experimental designs was used for one study (Joanna Briggs Institute; 2020; Mueller & McCullough, 2017); the checklist assessed nine questions around variables studied, comparisons between participants, use of a control group, outcome measures, use of a follow up, and the appropriateness of the statistical analysis.

A checklist for case reports was used for two studies (JBI, 2020; Lawson & Hight, 2015; Purvis et al., 2014); the checklist enquired about the patient's demographic characteristics, the patient's history, the current clinical condition of the patient, diagnostic tests or assessments used, the intervention procedure, post-intervention clinical condition, adverse events, and if there were takeaway lessons in the report.

A checklist for analytical cross-sectional studies was used for three studies (JBI, 2020; Barker & Place, 2005; Callaghan et al., 2019; Norton et al., 2019). Although these studies are not reported as analytical cross-sectional studies, it was determined by the research team that this was the most appropriate tool for these designs due to the relevance of the items on the checklist.

Table 4. 1

Quality Appraisal and Risk of Bias Tools

Quality Appraisal tool	**Cochrane Risk of Bias tool**	**Joanna Briggs Institute Checklist for Quasi-experimental design**	**Joanna Briggs Institute Checklist for Case Reports**	**Joanna Briggs institute Checklist for Analytical Cross-Sectional studies**
Study design: article authors	**RCT and RCT waitlist control:** Carrion et al. (2013) Farkas et al. (2010) Konanur et al. (2015) **Pre-test, post-test design:** Dauber et al. (2015) Purvis et al. (2015) Taussig and Culhane (2010) **Comparison Model:** McCullough and Mathura (2019)	**Quasi-experimental design:** Mueller and McCullough (2017)	**Case Study:** Purvis et al. (2014) Lawson and Hight (2015)	**Mixed Methods:** Norton et al. (2019) Barker and Place (2005) Callaghan et al. (2019) **Intervention Study:** Beltran et al. (2016) **Other Intervention model:** Parish et al. (1985) **Pilot Study:** Huang-Storms et al. (2007) **Single Case Design:** Feather and Ronan (2009)

Note: This Table outlines which Jonna Briggs Institute tools were used to assess quality for certain studies included in this review (Joanna Briggs Institute, 2020). Additionally, this Table includes a list of studies which were assessed for risk of bias using the Cochrane RoB tool (Higgins et al., 2019).

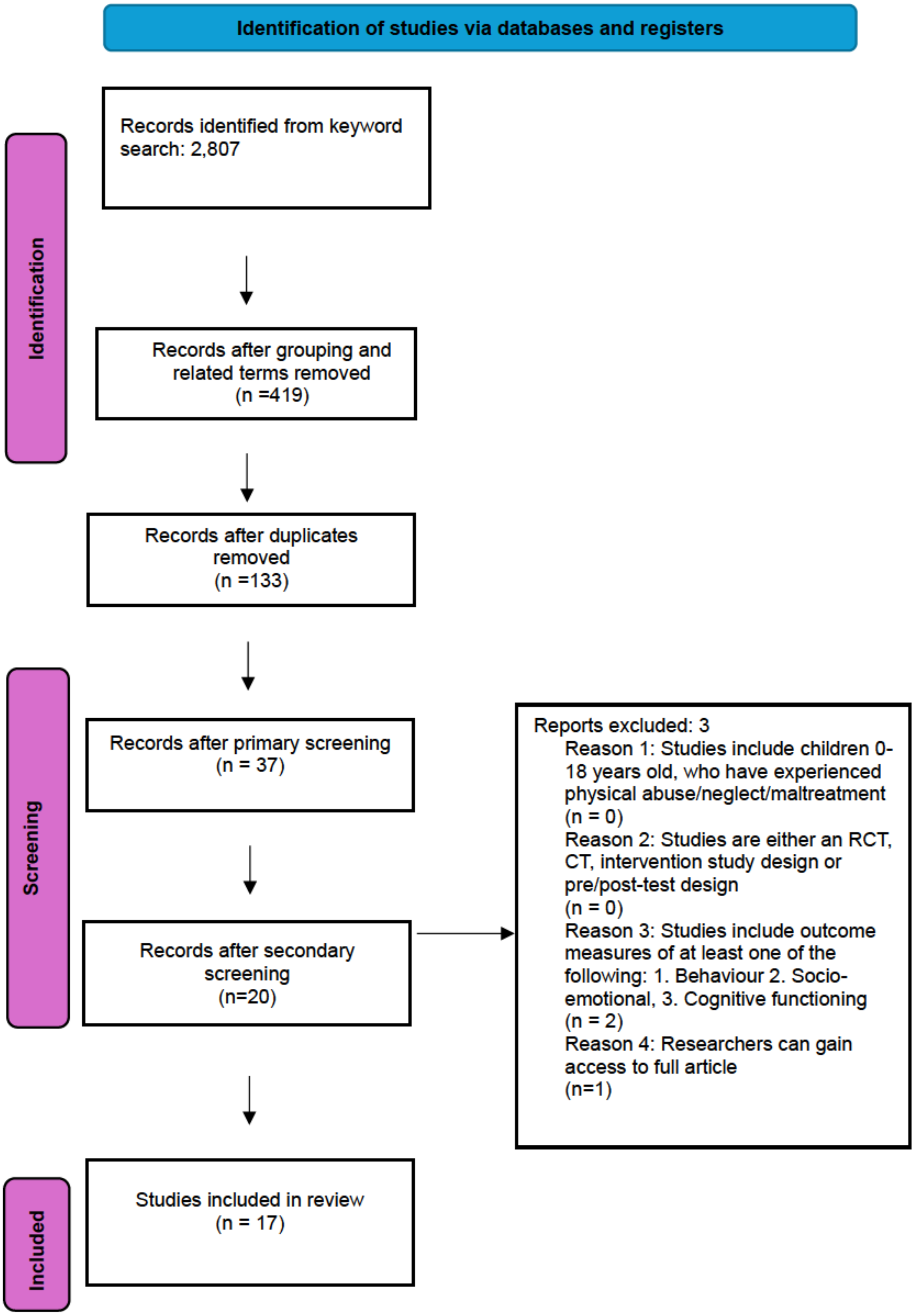
4.4 Results

Summary of search results

The search identified 2,807 articles, however, removal of grouping-related terms left 419 articles, removal of duplicates left 133 for primary screening. Subsequently, 37 met primary screening criteria. After the secondary screening performed by two reviewers, K.P. and D.S-L, there were 20 articles left. A third reviewer, K.S., reviewed discrepancies leaving 17 articles which met the full criteria. Figure 2 shows the PRISMA flow diagram for this review.

Figure 2

PRISMA Flow Diagram



Characteristics of the included studies

Seventeen studies comprising of 11 different study designs were included. Four studies utilised a Randomized Controlled Trial design, which included two randomised waitlist-control trials (RCT; Carrion et al., 2013; Konanur et al., 2015; Farkas et al., 2010; Taussig & Culhane, 2010). One study employed a comparison model (McCullough & Mathura, 2019). Three studies reported a mixed methods design (Barker & Place, 2005; Callaghan et al., 2019; Norton et al., 2019). Two studies reported that they were intervention studies (Barker & Place, 2005; Beltran et al, 2016). One pilot study was included (Huan-Storms, 2007). Two case studies were included (Lawson & Hight, 2015; Purvis et al, 2014). One study utilised a single case design (Feather & Ronan, 2009). Three studies included a pre-test, post-test design (Dauber, et al., 2015; Lawson & Hight, 2015; Purvis et al., 2015). One study utilised a quasi-experimental design (Mueller & McCullough, 2017).

Quality assessment

One article scored high risk for random sequence generation and allocation concealment as the control group did not receive the intervention due to the family or local funding authorities choosing an alternative intervention (McCullough & Mathura, 2019). For five of the articles, a lack of detailed, explicit information meant that no clear risk of bias could be determined (McCullough & Mathura, 2019; Taussig & Culhane, 2010; Carrion et al., 2013; Farkas et al., 2010; Konanur et al., 2015).

The included Joanna Briggs Institute checklists (Checklist for Quasi-experimental designs; Checklist for Case Report Studies; Checklist for Analytical Cross-sectional studies; JBI, 2020) assessed the quality of the study rather than the risk of bias. All studies were determined to have the necessary information to be included in this review (Barker & Place, 2005; Callaghan et al., 2019; Lawson & Hight, 2015; Mueller & McCullough, 2017; Norton et al., 2019; Purvis et al., 2014).

Population characteristics

Abuse type. Whilst all studies included physical abuse, only one study included participants who experienced physical abuse alone (Parish et al., 1985). There were 12 studies which included participants who, in addition to physical abuse, experienced sexual abuse, neglect, and emotional abuse (Barker & Place, 2005; Beltran et al., 2016; Carrion et al., 2013; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Konanur et al., 2015; Lawson & Hight, 2015; McCullough & Mathura, 2019; Meuller & McCullough, 2017; Purvis et al., 2014; Purvis et al., 2015). Most of the population in Norton et al. (2019) experienced sexual abuse as well as physical abuse and neglect, though they did not specify how many. One study included participants who also experienced or witnessed domestic violence (Callaghan et al., 2019), and one study included participants who experienced maltreatment, including physical abuse (Taussig & Culhane, 2010). For one study, different abuse types were not explicitly listed in the study, however it was mentioned that physical abuse was experienced by the sample (Huang-Storms et al., 2007).

Diagnoses. Beltran et al. (2016) included participants who all had a diagnosis of Attention Deficit Hyperactive Disorder and Adjustment Disorder, with the 60% of the participants also having Oppositional Defiant Disorder. One study's participants all had a diagnosis of Reactive Attachment Disorder (Huang-Storms et al., 2007) and one study consisted of participants with Post Traumatic Stress Disorder (Feather & Ronan, 2009). The remaining 14 studies did not specify any diagnoses for their participants.

Gender. One study reported that there were 40 females and 27 males included in their study (Barker et al., 2005). One study included only males (Beltran et al., 2016). One study included 28 girls and 30 males (Callaghan et al., 2019). Carrion et al. (2013) included 16 females and 22 males in their intervention group and 10 females and 17 males in their waitlist control group. One study reported that their analytic sample included 61% females and 39% males with a sample size of 31 (Dauber et al., 2015). One study included five males and 14 females in their experimental group and 10 males and 11 females in their control group (Farkas et al., 2010). One study reported on two males and two females and two males in a second study (Feather et al., 2009). There were nine females and 11 males reported in one study (Huang-Storms et al., 2007). Konanur et al. (2015) included 80 females and 33 males. Two studies included only one female (Lawson & Hight, 2015; Purvis et al., 2014). One study reported their intervention group consisted of 47% males and 53% females, they reported on 31 children for their intervention group and 23 children for their comparison group (McCullough & Matura, 2019). For Meuller and McCullough (2017) there were 45 males and nine females. Norton et al. (2019) reported that there were more females than males with 32 families participating; they reported 18 youth in the study group and 14 youth in the comparison group. One study included 29 males and 24 females (Parish et al., 1985). Purvis et al. (2015) reported that they had 30 males and 18 females for both their treatment and control group. One study did not report on gender, however they reported that they included a sample size of 156 (Taussig & Culhane, 2010).

Age. One study included participants ages four to 18 years old (Barker & Place, 2005). Beltran et al. (2016) reported on children eight to 12 years old. Carrion et al. (2019), Norton et al. (2019), and Dauber et al. (2015) included participants between eight and 17 years old. One study included participants aged 13 to 17 years old (Farkas et al., 2010). For one study participants were aged nine to 13 years old (Feather et al., 2009). Huang-Storms et al. (2007) included participants aged six to 15 and a half years old. One study included participants six years and ten months to 12 years old (Konanur et al., 2015). One study reported on a nine year old (Lawson & Hight, 2015). Two study included participants between nine and 11 years old (McCullough & Mathura, 2019; Taussig & Culhane, 2010). Mueller and McCullough (2017) reported on participants who were 10 to 18 years old. Purvis et al. (2015) included children aged five to 12 years old in their study. One study included children two and a half to five years old (Parish et al., 1985). One study included one participant aged 16 years old (Purvis et al., 2014). One study reported on participants aged 11 to 19 years old, for this study the research team determine that the study was still eligible as each dataset was reported on separately; the data set which included the 19 year old was not reported on this review (Callaghan et al., 2019).

Exclusion/Inclusion criteria and diagnoses. Four studies excluded participants with moderate or severe learning disabilities, or those with developmental delays (Carrion et al., 2013; Farkas et al., 2010; McCullough & Mathura, 2019; Taussig & Culhane, 2010). One study also excluded individuals who had psychosis (Farkas et al. ,2010), a psychotic disorder, or suicidality, and one study excluded those with schizophrenia or those who could not speak proficient English (Carrion et al. 2013). Beltran et al. (2016) included participants who were all diagnosed with Attention Deficit Hyperactive Disorder and Adjustment Disorder, with 60% of the participants also being diagnosed with Oppositional Defiant Disorder. For one study, participants were all diagnosed with Reactive Attachment Disorder (Huang-Storms et al., 2007), and in one study participants were all diagnosed with Post Traumatic Stress Disorder (Feather & Ronan, 2009). The remaining 14 studies did not specify any diagnoses for their participants (Barker & Place, 2005; Callaghan et al., 2019; Carion et al., 2013; Dauber et al., 2015; Farkas et al., 2010; Konanur et al., 2015; Lawson & Hight, 2015; McCullough & Matura, 2019; Mueller & McCullough, 2017; Norton et al., 2019; Parish et al., 1985; Purvis et al., 2014; Purvis et al., 2015; Taussig & Culhane, 2010). See Table 4.2 for a summary of participants in each study.

Table 4. 2

Summary of Participants

Author	Total population	Males	Females	Abuse type
Barker and Place (2005)	N=67	N= 27	N=40	Sexual abuse, neglect, emotional abuse, and physical abuse
Beltran et al. (2016)	N=10	N=10	N/A	Sexual abuse, neglect, emotional abuse, and physical abuse
Callaghan et al. (2019)	N= 58	N= 30	N= 28	Physical abuse and experienced or witnessed domestic violence
Carrion et al., (2019)	Treatment N=38 Waitlist control N= 27	Treatment N= 22 Waitlist control N= 17	Treatment N= 16 Waitlist control N= 10	Sexual abuse, neglect, emotional abuse, and physical abuse
Dauber et al. (2015)	N=31	N= 12	N=19	Sexual abuse, neglect, emotional abuse, and physical abuse
Farkas et al. (2010)	Treatment N=19 Control N= 21	Treatment N= 5 Control N=10	Treatment N= 14 Control N= 11	Sexual abuse, neglect, emotional abuse, and physical abuse
Feather and Ronan (2009)	First cohort N= 4 Second cohort N=2	First cohort N= 2 Second cohort N=2	First cohort N= 2 Second cohort N/A	Sexual abuse, neglect, emotional abuse, and physical abuse
Huang-Storms et al. (2007)	N= 20	N=11	N=9	Abuse type was not discussed in article, physical abuse was included in the sample
Konanur et al. (2015)	N= 113	N= 33	N= 80	Sexual abuse, neglect, emotional abuse, and physical abuse
Lawson and Hight (2015)	N= 1	N/A	N=1	Sexual abuse, neglect, emotional abuse, and physical abuse
McCullough and Matura (2019)	Treatment N=31 Comparison N=23	Treatment N=15 Comparison N= 16	Treatment N=16 Comparison N=7	Sexual abuse, neglect, emotional abuse, and physical abuse
Mueller and McCullough (2017)	N=54	N= 45	N= 9	Sexual abuse, neglect, emotional abuse, and physical abuse
Parish et al. (1985)	N= 53	N= 29	N=24	Physical abuse
Purvis et al. (2014)	N=1	N/A	N=1	Sexual abuse, neglect, emotional abuse, and physical abuse
Purvis et al., (2015)	Treatment N= 48 Control N= 48	Treatment N= 30 Control N=30	Treatment N= 18 Control N=18	Sexual abuse, neglect, emotional abuse, and physical abuse
Norton et al. (2019)	Treatment N=18 Comparison N=14	N/A	N/A (More female than male reported)	Sexual abuse, physical abuse, and neglect
Taussig and Culhane (2010)	N = 156	N= N/A	N= N/A	Maltreatment and physical abuse

Intervention characteristics

Theory. McCullough and Mathura (2019) evaluated an intervention rooted in biology and physiology, drawing from Theraplay and Dyadic Developmental psychotherapy. Three interventions were rooted in TF-CBT (Feather & Ronan, 2009; Lawson & Hight, 2015; Konanur et al., 2015), with another including elements of CBT emphasising Psychotherapy; incorporating therapeutic play with younger children (Barker & Place, 2005). One intervention was trauma-focused; employing a treatment guided by the adaptive information processing model rather than CBT (Farkas et al., 2010). One TF-CBT intervention (Lawson & Hight; 2015) incorporated principles of Attachment, Self-Regulation, Competency framework and Integrated Treatment of Complex Trauma. Three interventions included Trauma-Informed therapy; one of these included TF-CBT for maltreated children diagnosed with PTSD (Norton et al., 2017), one involved a training intervention training with the parents of children who had experienced abuse (Purvis et al., 2015), and one included an intervention addressing various subsystems (Purvis et al., 2014). One study used a manualised cue-centred treatment, described as an integrated approach rooted in psychoeducation (Carrion et al., 2013). Three interventions were attachment-based (Dauber et al., 2015; Purvis et al., 2014; Purvis et al., 2015), with Purvis et al. (2015) training parents in their Trust-Based Relational Intervention. One study incorporated yoga with psychotherapy (Beltran et al., 2016). One study reported on the MPOWER intervention, incorporating a narrative systematic approach (Callaghan et al., 2019). One study consisted of an intervention based on neurofeedback using audio and visual feedback (Haung-Storms et al., 2007), and one study utilised psychotherapy (equine-facilitated psychotherapy; Mueller & McCullough, 2017). Table 4.3 shows a summary of the author and study design, intervention/program employed, theoretical approach underpinning the intervention, outcome measures, population age range, and outcome findings.

Table 4. 3

Summary of Study Characteristics

Author and study design	Intervention or program	Theoretical Approach or Intervention	Method of collection	Sample Age (years)	Changes in outcome area		
					Behaviour	Cognitive	Socio-Emotional
Parish et al. (1985) Other Intervention Model	Family Development Centre Program	Program which emphasises development and involves child and parent interaction	Clinical report	2.5 to 5			X
Norton et al. (2019) Mixed-Methods design	Family Enrichment Adventure Therapy	Trauma-Informed therapy	Focus group Trauma Symptom Checklist for Children, Family Assessment Device	8 to 17	X	X	X
Barker & Place (2005) Mixed-Methods design	Sunrise Project	Rogerian style with CBT	Semi-structured interview, Health of the Nation Outcome Scales	4 to 18	X	X	X
Callaghan et al. (2019) Mixed-Methods design	MPOWER	Narrative systemic approach and creative therapeutic methods	Semi-structured interview, The Children's Outcome Rating Scale, The Children's Group Session Rating Scale	11 to 18	X		X
Beltran et al. (2016) Intervention study	Yoga-based psychotherapy group (YBPG)	Psychotherapy with Yoga	Structured Clinical Interview for DSM Disorders, Childhood Version, Behavioural and Emotional Rating Scale-2nd Edition	8 to 12		X	X
Huang-Storms et al. (2007) Pilot Study	qEEG-guided Neurofeedback	Neurofeedback	Test of Variables of Attention, Child Behavior Checklist,	6 to 15.5	X	X	X
Feather & Ronan (2009) Single Case design	Trauma-Focused CBT program	Trauma-Focused CBT	Child Behavior Checklist, Anxiety Disorder Interview Schedule for Children, Coping Questionnaire, Children's Post-traumatic Stress Reaction Index, State Trait Anxiety Inventory for Children, Children's Depression Inventory	9 to 13	X	X	
Purvis et al. (2014) Case Study	Trust-Based Relational Intervention (TBRI)	Trauma-Informed therapy and Attachment-based intervention	Neurochemical levels and observation from facility	16	X	X	X
Lawson & Hight (2015) Case study, Pre-test, post-test design		Trauma-focused CBT for Complex Trauma	Trauma Symptom Checklist for Children, Clinical interview, The Eyberg Child Behavior Inventory, The UCLA PTSD Reaction Index for *DSM-IV*, The Youth Outcome Questionnaire Self-Report	9	X	X	X

Table 4.3

Summary of Study Characteristics (cont.)

Author and study design	Intervention or program	Theoretical Approach or Intervention	Method of collection	Sample Age (years)	Changes in outcome area outcome area		
					Behaviour	Cognitive	Socio-Emotional
Dauber et al. (2015) Pre-test, post-test design	Trauma Recovery Program	Attachment-based CBT, creative arts approaches and incorporated other research supported interventions	Trauma Symptom Checklist for Children, Clinical Interview	8 to 17	X	X	
Purvis et al. (2015) Pre-test, post-test design	Trust-Based Relational Intervention	Trauma-Informed therapy and Attachment-based intervention	Trauma Symptom Checklist for Young Children, Strengths and Difficulties Questionnaire	5 to 12	X	X	
Mueller & McCullough (2017) Quasi-experimental trial	Equine-facilitated psychotherapy	Psychotherapy	Revised Child Impact of Events scale-13 (CRIES-13), Human-Animal Bond scale	10 to 18	X	X	
Taussig & Culhane (2010) RCT	Fostering Healthy Futures	Mentoring and skills groups	Child Behavior Checklist, Trauma Symptom Checklist for Children, Life Satisfaction Survey, The Coping Inventory, The Social Acceptance and Global Self-Worth scales, The Self-Perception Profile for Children, Social Support Factor Score based on factor analysis of The People in My Life-Short Form	9 to 11	X	X	X
Farkas et al. (2010) RCT	MASTR/EMDR	Motivation-adaptive skills-trauma resolution, Eye Movement Desensitization and Reprocessing	Child Behavior Checklist, Trauma Symptom Checklist for Children, Semi-Structured Interview	13 to 17	X	X	
Carrion et al., (2013) Randomised waitlist-control trial	Cue-Centered Treatment	Psychoeducation	The UCLA PTSD Reaction Index for DSM-IV-Child Version, The revised Children's Manifest Anxiety Scale, The Children's Depression Inventory, The Violence Exposure Scale for Children-Revised, The UCLA Reaction Index or DSM-IV-Parent version, The Beck Anxiety Inventory, The Children's Global Assessment Scale	8 to 17		X	
Konanur et al. (2015) Randomised waitlist-control trial		Trauma-focused CBT	Trauma Symptom Checklist for Children, Trauma Symptom Checklist for Young Children	6 to 12	X	X	
McCullough & Mathura (2019) Comparison model	Neurophysiological Psychotherapy	Combining biology and physiology. Drawing on Theraplay and Dyadic Developmental Psychotherapy	Behaviour Rating Inventory of Executive Functioning Assessment Checklist for Children or Adolescents, Child Behavior Checklist, Parent Interview	9 to 11	X	X	X

Note: This Table displays the references to each study in this review along with the name of their intervention, their theoretical underpinning, which outcome measurement tools they used, the ages of their sample and which outcome area they reported on.

Mode of delivery. All interventions were delivered face-to-face (Barker & Place, 2005; Beltran et al., 2016; Callaghan et al., 2019; Carrion et al., 2013; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Huang-Storms et al., 2007; Konanur et al., 2015; Lawson & Hight, 2015; McCullough and Matura, 2019; Meuller & McCullough, 2017; Norton et al., 2017; Parish et al., 1985; Purvis et al., 2014; Purvis et al., 2015; Taussig & Culhane, 2010).

Type of session. The types of intervention varied throughout studies. 14 studies reported that their intervention involved group therapy (McCullough & Matura, 2019; Parish et al., 1985; Taussig & Culhane, 2010; Norton et al., 2019; Beltran et al., 2016; Callaghan et al., 2019; Purvis et al., 2014; Carrion et al., 2013; Feather & Ronan, 2009; Dauber et al., 2015; Mueller & McCullough, 2017; Lawson & Hight, 2015; Purvis et al., 2015; Konanur et al., 2015). 11 of the group therapy interventions included parents or caregivers (McCullough & Matura, 2019; Parish et al., 1985; Norton et al., 2019; Beltran et al., 2016; Purvis et al., 2014; Carrion et al., 2013; Feather & Ronan, 2009; Dauber et al., 2015; Lawson & Hight, 2015; Purvis et al., 2015; Konanur et al., 2015). Three studies which involved group therapy included groups amongst peers (Taussig & Culhane, 2010; Callaghan et al., 2019; Mueller & McCullough, 2017). Five studies which used group therapy also reported using individual therapy (Beltran et al., 2016; Carrion et al., 2013; Feather & Ronan, 2009; Lawson & Hight, 2015; Konanur et al., 2015). Three studies reported individual sessions only (Barker & Place, 2005; Huang-Storms et al., 2007; Farkas et al., 2010).

Intensity of intervention. Four studies reported flexibility in sessions administered with the number determined on a case-by-case basis (Barker & Place, 2005; Dauber et al., 2015; Feather & Ronan, 2009; Parish et al., 1985). Eight of the studies reported having over 10 sessions (Beltran et al., 2016; Carrion et al., 2013; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan,2009; Huang-Storms et al., 2007; McCullough & Mathura, 2019; Mueller & McCullough, 2017). One study reported that the intervention was 17 months long, however no definitive number of sessions was reported (Lawson & Hight, 2015). One study reported having a 9-month program, with no definitive number of sessions reported (Taussig & Culhane, 2010).

Outcome measures

Parents and Guardians reported. Parents or guardians reported some of the outcomes for 11 of the studies (Barker & Place, 2005; Beltran et al., 2016; Carrion et al., 2013; Farkas et al., 2010; Feather & Ronan, 2009; Huang-Storms et al., 2007; Konanur et al., 2015; Lawson & Hight, 2015; McCullough & Mathura, 2019; Norton et al., 2019; Taussig & Culhane, 2010). In one study, parents or guardians reported all outcomes (Purvis et al., 2015). The Trauma Symptom Checklist for Children or Young Children was completed by the parent or caregiver in two studies (Purvis et al., 2015; Konanur et al., 2015). Five studies used the Child Behaviour Checklist parent form (Farkas et al., 2010; Feather & Ronan, 2009; Huang-Storms et al., 2007; McCullough & Mathura, 2019; Taussig & Culhane, 2010). The Behaviour Rating Inventory of Executive Functioning was used for one study (McCullough & Mathura, 2019). The UCLA PTSD Reaction Index for DSM-IV-Parent version, Beck Anxiety Inventory and Beck Depression Inventory were all used in Carrion et al. (2013). The Eyberg Child Inventory was used by Lawson and Hight (2015). Interviews with parents or guardians were used in three studies (Barker & Place, 2005; Farkas et al., 2010; Konanur et al., 2015).

Teacher reported. Teacher reports were used for two of the studies, alongside other means of reporting (McCullough & Mathura, 2019; Taussig & Culhane, 2010). One study included reports by only special education teachers; they used the Learning Accomplishment Profile, in which four areas of development were measured (Parish et al., 1985). One study also used the Child Behaviour Checklist teacher form (Feather & Ronan, 2009). The Teacher Report Form was used in Taussig and Culhane’s (2010).

Children reported. There were 10 studies which used child reported measures, in conjunction with other reporting (Barker & Place, 2005; Beltran et al., 2016; Carrion et al., 2013; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Haung-Storms et al., 2007; Konanur et al., 2015; Lawson & Hight, 2015; McCullough & Mathura, 2019). One study used only child reports (Callaghan et al., 2019). The Trauma Symptom Checklist for Children was completed by the child in five studies (Dauber et al., 2015; Farkas et al., 2010; Lawson & Hight, 2015; Taussig & Culhane, 2010; Norton et al., 2019). Taussig and Culhane (2010) used The Coping

Skills Inventory, the Social Acceptance and Global Self Worth Scales, the Self-Perception Profile for Children, and the Social Support Factor Score. The Assessment Checklist for Children and The Assessment Checklist for Adolescents for their outcome measures were used for one study (McCullough & Mathura, 2019). One study used the UCLA PTSD Reaction Index for *DSM-IV*-Child Version, The Revised Children's Manifest Anxiety Scale, The Children's Depression Inventory, and The Violence Exposure Scale for Children-Revised (Carrion et al.,2013). The Youth Outcome Questionnaire-Self Report was used in one study (Lawson & Hight, 2015). Feather and Ronan (2009) used a myriad of child report measures including, the Anxiety Disorder Interview Schedule for Children, Coping questionnaire, Children's Post-traumatic Stress Reaction Index, State Trait Anxiety Inventory for Children, and Children's Depression Inventory. Interviews with the children were used in seven studies (Beltran et al., 2016; Barker & Place, 2005; Callaghan et al., 2019; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Konanur et al., 2015) with one of those study's using a structured interview schedule (Feather & Ronan, 2009). Konanur et al. (2015) used a clinical semi-structured interview, while Beltran et al. (2016) used a structured interview.

Clinician reported. Eight studies used clinician reports for some outcomes (Barker & Place, 2005; Beltran et al., 2016; Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Haung-Storms et al., 2007; Konanur et al., 2015; Lawson & Hight, 2015) and one study used reports from their staff at a residential treatment centre (Purvis et al., 2014). One study used only clinical reports (Mueller & McCullough, 2017) and one study used the Test of Variables of Attention which assessed changes in attention (Huang-Storm et al., 2007). The Child and Adolescent Needs and Strengths scale was used in one study, along with the UCLA PTSD Reaction Index for *DSM-IV* and Therapy Process Observational Coding System for Child Psychotherapy Alliance Scale (Lawson & Hight, 2015).

Families reported. Lawson and Hight (2015) held a clinical interview with the patient and the patient's mother. A focus group for the families who participated was conducted in one study (Norton et al., 2019).

Study Author Reported Findings: Outcome areas

As part of the inclusion criteria for this review, studies needed to report outcomes in at least one of the following areas: behavioural, social-emotional, or cognitive functioning. All studies individually reported being effective in at least one of the outcome areas. See Table 4.3 on pages 91 and 92 for the full list of measures used for each study.

Behavioural. Eleven studies reported improvements in behaviour (Barker & Place, 2005; Farkas et al., 2010; Feather & Ronan, 2009; Huang-Storms et al., 2007; Konanur et al., 2015; Lawson & Hight, 2015; McCullough & Mathura, 2019; Norton et al., 2019; Purvis et al., 2014; Purvis et al., 2015; Taussig & Culhane, 2010). Five studies used the Child Behavior Checklist to measure behavioural outcomes including externalising (e.g. rule-breaking behaviour, aggressive behaviour, or conduct problems; Farkas et al., 2010; Feather & Ronan, 2009; Huang-Storms et al., 2007; McCullough & Mathura, 2019;Taussig & Culhane, 2010). McCullough & Mathura (2019) reported significant differences in behaviours; classed as Total Problems and Externalizing behavioural difficulties on the Child Behaviour Checklist. Three studies also reported significant differences for their treatment groups in Externalizing Difficulties on the Child Behaviour Checklist (Farkas et al., 2010; Huang-Storms et al., 2007; Taussig & Culhane, 2010); whereas Feather and Ronan (2009) reported that their results on the Child Behaviour Checklist were too inconsistent to yield meaningful results. Huang-Storms et al. (2007) reported a significant difference in this area with effect size (d=.78, p<.001) on the Child Behavior Checklist. Farkas et al. (2010) was the only study to provide a follow-up measure on the Child Behaviour Checklist, which showed that reductions in Externalizing behavioural difficulties were maintained after three months. Purvis et al. (2014) also conducted a follow-up report of observed behavioural differences, with the residential treatment staff reporting that necessary restraint of the participant dropped from 63 times to 15 times in the six months following the intervention, suggesting that the Trust Based Relational Intervention was effective in reducing severe maladaptive behaviours which resulted in being restrained. Purvis et al. (2015) used the Strengths and Difficulties Questionnaire, they reported significantly lower scores for Conduct Problems and Hyperactivity. One study used the Health of the Nation Outcome Scale to measure disruptive and antisocial behaviour (Barker & Place, 2005). Norton et al., 2019 reported on the Family

Assessment Device to measure Behaviour Control as well as General Functioning; they reported an improvement in both areas. One study used the Trauma Symptoms Checklist for Children and Young Children and reported a significant decrease of avoidance behaviour (Konanur et al., 2015).

Cognitive. Thirteen studies reported improvements in cognitive functioning (Barker & Place, 2005; Beltran et al., 2016; Carrion et al., 2013; Dauber et al., 2015 ; Feather & Ronan, 2009; Haung-Storms et al., 2007; Lawson & Hight, 2015; McCullough & Mathura, 2019; Meuller & McCullough, 2017; Norton et al., 2019; Purvis et al., 2014; Purvis et al., 2015; Taussig & Culhane, 2010). Seven studies reported significant decreases in areas measured by the Trauma Symptoms Checklist for Children, including anxiety symptoms, depressive symptoms, and anger (Dauber et al., 2015; Farkas et al. ,2010; Konanur et al., 2015; Lawson & Hight, 2015; Norton et al.,2019; Purvis et al., 2015; Taussig & Cuihane, 2010). Lawson and Hight (2015) reported a significant decrease in anxiety and depression which were maintained during the 12-month follow-up on the Trauma Symptoms Checklist for Children. Farkas et al. (2010) also reported a significant decrease in depression symptoms along with a significant decrease in stress, along with a significant effect size for anger, dissociation, anxiety, and sexual concerns, on the Trauma Symptoms Checklist for Children. One study used the Test of Variables of Attention and reported an improvement in attention (Huang-Storms et al., 2007). Mueller and McCullough (2017) found a significant decrease in self-reported intrusion, avoidance and arousal symptoms on the Revised Child Impact of Events Scale- 13; however, there were no differences found between the control group and the intervention group. One study used the Health of the Nation Outcome Scales to measure poor concentration (Barker & Place, 2005). One study used the Behavioural and Emotional Rating Scale -2, to measure intrapersonal strength, affective strength, and school functioning (Beltran et al., 2016). One study used the revised Children's Manifest Anxiety Scale and the Beck Anxiety Inventory to measure anxiety, the Children's Depression Inventory to measure depressive symptoms, as well as The Children's Global Assessment Scale to measure general functioning (Carrion et al., 2013).

Socio-emotional. Many interventions were effective in treating a wide range of socio-emotional aspects (Parish et al., 1985; McCullough & Mathura, 2019; Taussig & Culhane, 2010; Norton et al., 2019; Barker & Place, 2005; Beltran et al., 2016; Callaghan et al., 2019; Huang-Storm et al., 2007; Purvis et al, 2014; Lawson & Hight, 2015). Norton et al. (2019) reported that their participants discussed improvements in areas of communication, problem-solving, and closeness, while their quantitative data showed effectiveness in decreasing depression and anxiety symptoms.

4.4.1 Discussion

Summary of main findings

This review examined current interventions targeting children who have experienced physical abuse. Specifically, it aimed to:

- Determine the efficacy of current interventions for children who have experienced physical abuse
- Determine the most improved areas of specified outcomes while using current interventions in place for children who experienced physical abuse
- Determine successful methodologies of current interventions in place for children who experienced physical abuse

Efficacy is an important factor in investigating interventions as it helps to determine whether an intervention produces its intended effect (Munn et al., 2018). For this review, the intended effect of the intervention pertains to improving the specified outcome areas (listed above). Whilst a meta-analysis had been intended, both clinical heterogeneity (that is, variability in the interventions and outcomes studied) and methodological heterogeneity (that is, differences in study designs, risk of bias, and outcome measurement tools) were present, meaning a meta-analysis would have been unreliable (Higgins et al., 2019). Instead, only a narrative synthesis could reliably be conducted.

In addition to this clinical heterogeneity, there was also methodological heterogeneity. For the studies included in this review there were 11 different study designs, allowing only seven studies to be evaluated for risk of bias using the

Cochrane Risk-of-Bias assessment tool (Carrion et al. 2013; Dauber et al., 2015; Farkas et al., 2010; Konanur et al., 2015; McCullough & Matura, 2019; Purvis et al., 2015; Taussig & Culhane, 2010). For the ten remaining studies, risk of bias could not be evaluated (Barker & Place, 2005; Beltran et al., 2016; Callaghan et al., 2019; Feather & Ronan, 2009; Huang-Storms et al., 2007; Lawson & Hight, 2015; Meuller & McCullough, 2017; Norton et al., 2017; Parish et al., 1985; Purvis et al., 2014). While the quality assessment checklists used for the ten studies provide a valuable assessment of the studies, they did not include a full risk of bias assessment (Joanna Briggs Institute, 2020). This is problematic in assessing the efficacy of the studies because differing degrees of biases may have impacted the observed intervention effect (Higgins et al., 2019). Determining risk of bias is integral for transparent (and, therefore, replicable) research and reliable interventions (Viswanathan et al., 2017). Thus, whilst the first aim of assessing efficacy could not be fully tested, the current review does highlight the need for more rigorous study designs and more transparent reporting to enable a clearer risk of bias assessment.

Whilst comparisons of efficacy across studies is limited, each study reported improvements post-intervention in at least one outcome area. Seven studies reported improvements in all outcome areas (Barker & Place, 2005; Huang-Storms et al., 2007; Lawson & Hight, 2015; McCullough & Matura, 2019; Norton et al., 2017; Purvis et al., 2014; Taussig & Culhane, 2010). Eight studies reported improvements in two outcome areas; six of which reported improvements in behaviour and cognition (Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Konanur et al., 2015; Mueller & McCullough, 2017; Purvis et al., 2015), and two reported socio-emotional and behavioural improvements (Beltran et al., 2016; Callaghan et al., 2019). Two studies reported improvements in only one outcome area; socio-emotional (Parish et al., 1985) and cognitive (Carrion et al., 2013). These findings suggest that the interventions were successful in treating at least one outcome area. However, the studies which reported improvements in all outcome areas or in two outcome areas may be more beneficial for treating this population than those which reported improvements in only one outcome area.

Though each study reported improvements in at least one outcome area, tools used to measure outcomes varied along with who reported the outcome. There were 30 different outcome measures used to assess outcomes across the 17 studies included in this review. The heterogeneity of the outcome measures and who reported reduced comparability and reliability across the studies. Reliability refers to a measure of whether something is consistent and is a consequential factor in providing robust data on an intervention (Parsons et al., 2019). As most measures differed across studies, it is unclear whether each study was reliably measuring the same outcome. Thus, adding to the inability to assess efficacy of each intervention.

Additionally, who reported on each measure differed among studies. For example, in two studies the Trauma Symptoms Checklist for children was reported on by parents (Purvis et al., 2015; Konanur et al., 2015), in another five studies the Trauma Symptoms Checklist was completed by children (Dauber et al., 2015; Farkas et al., 2010; Lawson & Hight, 2015; Taussig & Culhane, 2010; Norton et al., 2019). Parent reports may present a proxy or caregiver bias by either underreporting or overreporting symptoms (Zini & Banfi, 2018). This type of bias may be especially present when reporting on 'hidden' areas, or areas which are less observable such as depressive or anxious symptoms as parents do not have a comprehensive view of what their child may truly be feeling (Zini & Banfi, 2018). Additionally, there are other types of biases which may be present in reporting. For example, recall bias, which refers to an inability to remember either certain details or events, can be present in individuals reporting on outcome measures (Zini & Banfi, 2018). Parents, teachers, or even clinicians who report on a participant may not remember specific details pertaining to participant or may have a distorted memory of details (Zini & Banfi, 2018). Recall bias may also cause an underreporting or overreporting of symptoms as well. This type of bias may be especially present if data is collected a while after the intervention has ended. For example, Taussig and Culhane (2010) collected data six months post-intervention as well as immediately after ending the intervention. The scores collected six months post-intervention may not be as accurate as the scores immediately after the intervention ended as participants memory of their symptoms previously may be distorted. The distortion in memory may then cause participants to either underreport their symptoms or overreport their symptoms (Zini & Banfi, 2018). Additionally, working with children may pose more difficulty as issues stemming from recall bias may be higher in children. Fatigue bias may also be present in many participants. Fatigue bias occurs when there is a lengthy collection process, a participant may be come fatigued and begin to answer questions inaccurately (Zini &

Banfi, 2018). As all of the studies involved multiple outcome measures at a single collection point, participants may have experienced fatigue bias. A systematic review on bias in patient reported data has shown that participants who found the reporting process more demanding are more likely to report worse outcomes (Zini & Banfi, 2018). Fatigue bias may, therefore, cause unreliable data.

Synthesis revealed that certain intervention factors influenced outcomes. Intervention factors are important components of an intervention which describe parts of the intervention. These components can influence the efficacy and reliability of an intervention (Hoffmann et al., 2014). For example, mode of delivery discusses how the interventions were delivered; for this review all studies reported on face-to-face interventions. Other important intervention factors include theoretical basis for the intervention, intensity of intervention, type of session (group versus individual), who provided the intervention, and any modifications or tailoring that were made (Hoffmann et al., 2014).

The type of session was found to influence outcomes for the studies included in this review. For example, only one study delivering group therapy with peers reported improvements in all three outcome areas, whereas two interventions that delivered only individual sessions reported improvements in all outcomes (Barker & Place, 2005; Huang-Storms et al., 2007). This suggests that individual sessions may be more beneficial in treating behavioural, cognitive, and socio-emotional areas than group sessions with peers. Literature surrounding group therapy with peers for children who have experienced physical abuse is scarce. Most research concerning interventions for this population discuss individual or family group sessions (Cohen et al., 2007). However, as only three studies discussed group therapy with peers, future research should consider exploring this type of intervention to determine its efficacy.

Consistent with the literature, interventions which included multiple types of sessions (individual and parent/family sessions) were more common than only group therapy. Some interventions which included multiple components including family therapy or concurrent individual parent therapy reported improvements in all outcome areas (Purvis et al., 2014; Lawson & Hight,2015; McCullough & Matura, 2019; Norton et al., 2017). Other studies which reported on interventions which involved family or concurrent parent therapy reported improvements in only behavioural and cognitive outcomes (Dauber et al., 2015; Farkas et al., 2010; Feather & Ronan, 2009; Konanur et al., 2015; Purvis et al., 2015), or in only cognitive or socio-emotional respectively (Carrion et al., 2013; Parish et al., 1985). However, it is important to note that the areas of improvement reported in Dauber et al. (2015), Farkas et al. (2010), Feather and Ronan (2009), Konanur et al. (2015), Purvis et al. (2015), Carrion et al. (2013), and Parish et al. (1985), were the only outcome areas which were reported on. Including family in therapy appears crucial in repairing relationships between parent and child, as well as providing parents with necessary skills to enhance safety and future development (Cohen et al., 2007; Sexton & Datchi, 2014). Utilising family group therapy in addition to individual therapy could provide a comprehensive treatment plan for children who experienced physical abuse. Previous research suggests that family-based therapy is effective in treating issues which arise from child physical abuse (Carr, 2018). Family-based therapies allow for issues such as parenting skills and overall supportiveness to be addressed (Carr, 2018). Parent-child interaction therapy, which involves parent training, has also been shown to have significant improvements in children who have experienced physical abuse (Carr, 2018).

While each intervention in this review reported improvements in at least one area, there were many different approaches used. Theoretical approaches informing interventions were largely either trauma-based (Farkas et al., 2010; Feather & Ronan, 2009; Lawson & Hight, 2015; Konanur et al., 2015; Norton et al., 2017; Purvis et al., 2014; Purvis et al., 2015), or attachment-based (Dauber et al., 2015; Purvis et al., 2014; Purvis et al., 2015).Trauma-based interventions focus on a comprehensive treatment plan to address a multitude of issues (Cohen et al., 2011; Menschner & Maul, 2016). More specifically, trauma-based interventions primarily focus on six components: safety, trustworthiness; peer support; collaboration; empowerment; and cultural, historical and gender issues (Substance Abuse and Mental Health Services Administration, 2014); in these components emotional and behavioural trauma-related issues are addressed (Cohen et al., 2011). Indeed, trauma-based interventions reported improvements in either all outcomes (Norton et al., 2017; Purvis et al., 2014), or in behavioural and cognitive outcomes (Farkas et al., 2010; Feather & Ronan, 2009; Konanur et al., 2015; Lawson & Hight, 2015; Purvis et al., 2015).

Though many of the interventions included in this review were rooted in TF-CBT, interventions utilising alternative methods appeared to be effective. For example, similar to research considering attention deficit disorder, insomnia, schizophrenia, ASC, and learning disabilities such as dyslexia (Marzbani et al., 2016), qEEG neurofeedback improved behavioural outcomes in children who experienced physical abuse (Haung-Storms et al., 2007). Moreover, interventions using methods such as neurofeedback or motivation-adaptive skills-trauma resolution/eye movement desensitization and reprocessing (MASTR/EMDR) yielded significant results (Haung-Storms et al., 2007; Farkas et al., 2010). The study exemplifying MASTR/EMDR even reported maintained results three months after treatment, showing its long-term effectiveness. The effectiveness of EMDR has been well documented in those with PTSD and is generally preferred by some as it does not involve long exposure to traumatic histories (Chen et al., 2018). As EMDR is becoming increasingly more common, its long-term effects have become more evident. A systematic review exploring EMDR found that EMDR was linked with reductions in depressive, anxious and PTSD symptoms at follow-up when compared with other therapies (Chen et al., 2018). Though, EMDR has been found to be effective in populations with PTSD, MASTR therapy is not as widely researched. MASTR therapy is commonly used for children with trauma and conduct issues and utilises a number of different components such as development of coping skills, cognitive-behavioural training, and motivational interviewing (Chen et al., 2018; Greenwald, 2009). Utilising two differing approaches to treatment might be a beneficial and innovative way to treat this population. The findings from this review highlight the need to further research alternative methods of treatment, particularly those which include combinations of different components of interventions. A further important finding is that integrating therapeutic approaches could improve outcomes. For example, Adventure Therapy using adventure skill-building techniques alongside strategies used in trauma-informed therapy improved all outcomes, with participants noting that family relationships improved (Norton et al., 2017). This intervention focused on certain relationship building skills, it also incorporated a physical approach to therapy. Bringing the physical approach to a, typically, talk-based therapy may have helped the participants to practice the strategies discussed in therapy in a real world setting while still being under the guidance of a clinician. The Adventure Therapy program relied on collaboration between the parent and child, while creating an environment which can foster healthy and positive changes.

Another integrated intervention which proved to be successful was Neuro-Physiological Psychotherapy (NPP; McCullough & Matura, 2019). This intervention incorporated a biological element into psychotherapy focusing on somatosensory systems, behavioural responses, and attachment systems, therefore taking a very comprehensive approach to treatment. This NPP approach still utilises components of talk therapy while also focusing on somatic responses to stress allowing for better emotional regulation in response to triggers (Shafir, 2016; McCullough & Matura, 2019). Applying a more comprehensive treatment such as NPP or Adventure Therapy may be beneficial to other childhood populations with traumatic backgrounds. For example, children with ASC who also have a traumatic background may experience sensory, or hyperactivity difficulties. These difficulties associated with ASC could impact on typical talk therapy sessions making them difficult to sit through. Therefore, applying a more physical or alternative approach to talk therapy could benefit neurodivergent children who have experienced physical abuse. Parent or teacher training also appeared to impact outcomes. The NPP intervention also focused on training parents in NPP and training school staff which has shown to be effective in improving outcome areas (McCullough & Matura, 2019).

Training parents and school staff can be a crucial component for any intervention as consistency in interventions methods is key for success. For Purvis et al. (2015), a Trauma-Informed Parent Training Intervention was employed, which proved to be effective in lowering aggression and anxiety and promoting prosocial behaviour. This program included a four-day training for parents which taught them strategies that were designed to help improve behavioural outcomes for children. As sessions with clinicians are limited, parent training can be a useful way to provide consistency in intervention techniques. Though limited, the results of the studies included in this review provide insight into the ways in which parent or teacher training may be crucial in treating this population. For McCullough and Matura (2019) teacher training allowed children to apply and learn skills in a different environment, providing more generalisation of their skills. Additionally, training parents and school staff equipped those who are closest to the child with effective techniques in helping the child. Providing this type of consistency is not a new concept for interventions, many interventions which treat with neurodivergent children have dedicated parent training sessions (Wade et al., 2008). However, while the concept of parent training is not new, it is not often applied in interventions which treat children who experienced abuse. Parent training programs regarding child maltreatment are often targeted at preventing or reducing child maltreatment or abuse, instead of providing parents with therapeutic techniques to better treat their child (Gubbels et al., 2019). Reasons for this may be due to the large negative impact of child maltreatment and the desire to prevent it before it begins (Gubbels et al., 2019). Though, preventing child maltreatment and abuse is vitally important, training parents to assist in their child's treatment may be just as important. The findings from this review show how parent or teacher training assistance can positively impact a child's treatment and future research should consider exploring this notion further.

Implications

Though the interventions were reported as being effective in each individual study, the heterogeneity of designs and tools used to measure outcomes made it difficult to make direct comparisons. Thus, comparing each study to determine which intervention was most effective was not possible. The methodological heterogeneity provided the greatest difficulty in comparing studies as risk of bias was not able to be assessed for each study. These findings reflect a need for more rigorous study designs, such as RCTs, which allow for a clearer risk of bias assessment. Conversely, these findings also reflect a need for more risk of bias reporting measures to ensure all studies can be properly assessed.

As aforementioned, there are a number of different biases that a participant may suffer from while reporting outcome data. Future research should consider adopting a standardised outcome measure for both parents and children which may help reduce these biases. Though parent reporting may still be subject to proxy bias, cross reporting with a standardised measure for children may counteract proxy bias. Additionally, adopting standardised measures may reduce fatigue bias as each person reporting would not have to report on a number of different measures which measure different outcomes at a single collection point. Utilising standardised measures would also assist in creating reliability and comparability across studies.

Whilst all interventions were delivered face-to face, mostly in clinical settings, it is important to consider other methods of delivery. For example, since the start of the SARS-CoV-2 virus global pandemic in 2020, there has been an increase in the use of tele-medicine (Sammons et al., 2021), which have been shown to be effective. Not only would such delivery allow treatment during future pandemics, but it could also open treatment to people who could not normally attend in-clinic treatments (e.g., if they live far away, do not have access to suitable transport to get there, etc.). However, caution needs to be taken to ensure the effectiveness of current intervention is not lost or reduced during online interventions.

As discussed, TF-CBT is one of the most common types of interventions available in treating children who have experienced physical abuse. However, the results of this review suggest that alternative theoretical approaches may be effective as well. As improved outcomes were reported in alternative theoretical approaches such as, Adventure therapy or MASTR/EMDR, future research should consider these while exploring interventions for this population. Additionally, as TF-CBT often involves sessions filled with discussion, exploring alternative approaches which involve less discussion are important for treating neurodivergent populations, or populations with less verbal ability. For example, Adventure Therapy may be beneficial in treating populations which have difficulty with sitting during talk therapy as it provides a more movement-based session.

Limitations

While randomised controlled trials (RCTs) are generally considered a ‘gold standard’, only four studies met this criterion. Additionally, the heterogeneity of the studies made direct comparisons difficult and the small sample sizes and lack of control groups reduced the ability to generalise the effectiveness of the interventions. Thus, further research using RCTs, and the use of larger sample sizes is necessary.

The initial search was also limited to the databases included in the University of Gloucestershire’s electronic library database, and a grey literature search was not performed. Grey literature may have helped the review be more comprehensive by using articles which may have served a smaller population and may decrease publisher bias in this review. However, grey literature was not searched due limited access available.

The small number of studies included (and the heterogeneity of study designs and analyses conducted) meant that meta-analysis was not appropriate, which limits the generalisations that can be made. Therefore, further research is needed into this important topic to identify which interventions are most effective.

4.4.2 Conclusion

This chapter discussed a systematic review and narrative synthesis which explored interventions for children who have experienced physical abuse. It aimed to determine the efficacy of current interventions in place for children who experienced physical abuse; determine most improved areas of specified outcomes while using current interventions in place for children who have experienced physical abuse; and determine successful methodologies/basis of current interventions in place for children who have experienced physical abuse. This review found that, most commonly, interventions in place for children who have experienced physical abuse use a trauma-focused or trauma-informed approach. Interventions rooted in TF-CBT yielded successful results in treating cognitive and behavioural issues. However, other alternative methods, such as qEEG neurofeedback, were also effective in treating behavioural issues as well as socio-emotional issues. Interventions which involved family and not just an individual, were successful in helping to build familial relationships by working on communication and team skill building. Though each article included in this review reported effective results, the heterogeneity of the study designs and analyses performed caused difficulties in directly comparing each intervention; therefore, determining which intervention was most effective overall was not possible. Implication for future research and limitations of the systematic review and narrative synthesis were also discussed. The next sections will provide a discussion on a scoping review on interventions for children with ASC.

4.5 Scoping review on interventions for children with ASC

This section contextualises the current literature surrounding interventions for children with ASC by first introducing current interventions, then presenting a scoping review on interventions for children with ASC. This chapter aims to assess the current literature surrounding interventions in place for children with ASC, through mapping the specific components, underpinning theories/methodologies, and specific outcomes assessed in these therapeutic interventions.

4.5.1 Interventions for ASC

As discussed in chapter one, ASC is a heterogenous condition which encompasses a wide range of different characteristics (Lord et al., 2018; Lord et al., 2020). As the way individuals experience ASC is unique, there are a multitude of different interventions used for treatment (Lord et al., 2020; Will et al., 2018). Interventions for children, in particular, vary with a wide range of approaches utilised (Lord et al., 2020; There are interventions which include behavioural foundations, developmental foundations, eclectic approaches, comprehensive approaches, speech and language therapy, social skills training, animal assisted therapy and many other differing approaches to treat ASC (Goldstein & DeVries, 2013; Lord et al., 2020; Will et al., 2018). Due to the heterogeneity of core symptoms associated with ASC, evidence suggest that interventions often aim to enhance functional skills while reducing maladaptive behaviours (Will et al., 2018). Functional skills which are often worked on include, social skills, communication, quality of life, and daily living skills (Lord et al., 2020; Will et al., 2018). Though as ASC is a diverse condition, there is not a 'one size fits all' approach, in other words, there is not one single treatment option which focuses on ASC as a whole (Goldstein & DeVries, 2013; Will et al., 2018). Instead, there are a multitude of approaches which focus on different outcomes (Goldstein & DeVries, 2013; Will et al., 2018). For example, social skills interventions focus on social communication and teaching skills which an individual would utilise in social situations; while, applied behavioural analysis therapies focus on a wide range of characteristics such as communication, motor skills, and reducing maladaptive behaviours (Will et al., 2018). However, as with many other conditions[1], there are approaches which are more commonly used, one such approach for ASC includes early intervention.

Early intervention is commonly discussed as a form of support which is given when a problem first arises (National Society for the Prevention of Cruelty to Children, 2021). As it pertains to ASC, early intervention is provided to at-risk or diagnosed children under the age of 5 years old (Caron et al., 2017; Landa, 2018; Lord et al., 2020; Will et al., 2018). Early intervention is not one specific type of therapy, instead the term encompasses an array of different interventions (Caron et al., 2017; Lord et

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[1] The term 'conditions' is being used here as a reflection of current inclusive practices while referring to diagnoses made under the Diagnostic and Statistical Manual of Mental Disorders.

al., 2020; Will et al. 2018). Interventions typically associated with ‘early intervention’ aim to increase skills such as communication or socialisation, while reducing maladaptive behaviours such as stereotypy, self-injurious behaviours, or other aggressive behaviours such as hitting (Caron et al., 2017; Lord et al., 2020; Will et al., 2018). Early intervention for ASC often includes Early Intensive Behavioural Therapy which applies the principles of applied behavioural analysis (ABA; Caron et al., 2017; Lord et al., 2020; Roane et al., 2016; Smith & Iadarola, 2015). The foundation of ABA based interventions is rooted on research performed by Skinner, who concluded that behaviour was determined by a process called selection by consequences (Roane et al., 2016). Essentially, selection by consequences posits that behaviours which create favourable outcomes will continue to occur through reinforcement and behaviours which do not create favourable outcomes will decrease over time, or will stop entirely (Roane et al., 2016). Through this work, Skinner determined responses could be changed or developed over time by reinforcing successive approximations of the target response, a notion which is called shaping (Roane et al., 2016). Shaping and reinforcement consequences create the underlying foundation of ABA based interventions (Roane et al., 2016; Will et al., 2018). The first ABA based Early Intensive Behavioural Intervention model was created by Ivar Lovaas in the late 1980s (Schreibman et al., 2015; Roane et al., 2016). Lovaas’s model is one of the most common ABA models which is still used in Early Intensive Behavioural therapy today; it relies heavily on discrete trial training, an approach which is centred around teaching skills through repeated specific instructions while minimising additional instruction, thus producing a ‘discrete’ instruction (Roane et al., 2015). Discrete trial training is a highly structured technique, which often involves contrived trials rather than more spontaneous interactions (Schreibman et al., 2015). Lovaas’s model also included high intensity with up to 25 to 40 hours of intervention per week for several years (Schreibman et al., 2015; Smith & Iadarola, 2015).

ABA based interventions have been found to be highly effective in treating individuals with ASC and have incorporated many effective techniques and intervention components since the 1980s (Yu et al., 2020). These techniques, such as picture exchange communication, and other behavioural modification techniques (e.g., differential reinforcement of alternative behaviour, positive reinforcement, and pivotal response treatment) have been seen as highly effective in treating language and communication, social deficits, cognition, daily living challenges and self-help skills (Gitimoghaddam et al., 2022; Lord et al., 2020; Sulu et al., 2024; Yu et al., 2020). ABA interventions have also been used to help problem behaviours that are commonly seen in children with ASC but are not part of the diagnostic criteria (e.g., self-injurious behaviours and meltdown behaviours; Gitimoghaddam et al., 2022; Roane et al., 2019). In addition, ABA interventions have been utilised with individuals of different ages, showing improvements in language, social skills, and cognitive aspects across ages (Sulu et al., 2024). As ABA interventions have been seen to positively impact a wide scope of deficits associated with ASC, across different ages, there are many individuals who could benefit from ABA based interventions. As mentioned, there are many different approaches and techniques used in ABA interventions and although, the Lovaas model is still commonly used, ABA based interventions have transformed over time to include more naturalistic and child-driven developmental strategies (Goldstein & DeVries, 2013; Lord et al., 2020). One emerging Early Intensive Behavioural intervention which was built on ABA principles is Naturalistic Developmental Behavioural Intervention (NDBI; D'Agostino et al., 2023; Schreibman et al., 2015; Tiede & Walton, 2019). NDBI merges developmental and behavioural foundations and emphasises more natural connections between the skill that is being targeted and the consequence (D'Agostino et al., 2023; Tiede & Walton, 2019). As with the term 'early intervention', NDBI does not include just one approach; instead, there are many different intervention models which fall under this category (Tiede & Walton, 2019; Schreibman et al., 2015). However, all models have the same core components, including the nature of the intervention targets, environments in which interventions are delivered, and instructional techniques (Scheribman et al., 2015). In NBDIs, the nature of the intervention targets is developmental which includes domains of cognition, language, play, motor skills, and social aspects (Scheribman et al., 2015; Tiede & Walton, 2019). For the environments for intervention delivery, NDBIs aim to provide socially and emotionally meaningful engagements while still in a natural environment, as this is seen as key in enhancing learning (Scheribman et al., 2015). Meaningful engagements are created through establishing adult and child interaction activities which merge into motivating routines or familiar everyday routines (Scheribman et al., 2015; Tiede & Walton, 2019). Throughout these meaningful engagements, instructional techniques are used which rely on opportunities for spontaneous and flexible responses; this also allows for natural reinforcers to be used such as social praise or engaging in a rewarding behaviour like tickling (Scheribman et al., 2015; Tiede & Walton, 2019). Though NDBIs are rooted in ABA, and as such use techniques such as shaping, NDBIs differ from Lovaas's strict ABA model as they require a natural context rather than highly structured environments (Scheribman et al., 2015; Tiede & Walton, 2019). Another way in which NDBIs differ from Lovaas's model, is some models endorse a 'universal acceptance' of behaviours, in other words, these models provide little to no corrective feedback on certain behaviours, which allows for more flexible responses (Tiede & Walton, 2019).

Though NDBIs and other early interventions, such as the Lovass model of Early Intensive Behavioural Intervention, have been shown to be effective in the treatment of ASC, there are still some issues which arise while discussing these interventions. First, Lovaas's model of Early Intensive Behavioural Intervention has been criticised as findings suggest some children who are taught through Lovaas's model fail to generalise new skills across different environments, have more escape or avoidance behaviours, lack spontaneous use of skills and are overdependent on prompts (Schriebman et al., 2015). Additionally, as intervention intensity is high it may be difficult for parents or families to commit to treatment (Lord et al., 2020). Though, NDBIs aim to address some of the critiques of Lovaas's model, such as creating a natural context to generate more spontaneity, they are not without their limitations as well (Scheribman et al., 2015; Tiede & Walton, 2019). NDBIs are based on an ABA foundation, as is Lovaas's model which relies heavily on discrete trial training; as such, referrers or those in the public sector may confuse NDBI models with Lovaas's discrete trial training model (Scheribman et al., 2015). This confusion creates issues among the general public and researchers alike as funders or health insurance companies may restrict funding for ASC treatment or research to only one type of ABA based intervention, thus limiting the range of effective ABA based interventions (Scheribman et al., 2015). As such, it is important that researchers explicitly state they are utilising an NDBI model to avoid confusion and create more opportunity for other effective ABA based interventions (D'Agostino et al., 2023; Scheribman et al., 2015). Despite the limitations involved in Early Intensive Behavioural Intervention, researchers discuss 'early intervention' in nearly any form as key in the treatment of ASC.

Though, ABA based interventions are the most commonly researched and utilised interventions, these approaches have been critiqued recently and have instigated major discussions raising ethical dilemmas (Wilkenfeld & McCarthy, 2020). Put briefly, ASC advocates argue that ABA interventions violate child autonomy which may produce detrimental effects on mental health and child identities (Wilkenfel & McCarthy, 2020). From this view, ABA based interventions are regulating what is determined as 'appropriate' behaviour and with this practitioners are actively suppressing behaviours which do not fit with the ABA 'appropriate' behaviour ideas (Milton, 2018). As ABA based interventions attempt to change what is not determined to be 'appropriate', these practices are, therefore, infringing on the autonomy of children (Wilkenfel & McCarthy, 2020). Additionally, this determination of what is 'appropriate' and 'inappropriate' has been argued to be dangerous in itself, as it restricts what societal standards see as acceptable, which may also lead to children believing that they are bad or wrong in way for engaging in these behaviours (Milton, 2018; Wilkenfel & McCarthy, 2020). Instead, critics of ABA based interventions agree that interventions should take a more person-centred and holistic approach while also building environments which are more accessible and accepting (Milton, 2018). This argument is critical in determining the future of interventions for children with ASC and as such, will be discussed Chapter Eight.

As early intervention and Early Intensive Behavioural Interventions are provided to children under 5 years old, adolescents are often provided with other types of interventions (Lord et al., 2020; Will et al., 2018). Social Skills interventions are prominent in treatment for adolescents with ASC, more often these are provided to children who are less impacted (those whose symptoms are less severe) and to older children, who are secondary school aged or older (Lord et al., 2020; Will et al., 2018). Social Skills interventions do not all follow one theory or methodology, instead there are an array of underlying foundations which inform many different interventions (Lord et al., 2020; Moody & Laugeson, 2020; Will et al., 2018). While social skills interventions include a wide array of approaches and varying techniques, the most common techniques are social skills groups, peer-mediated interventions, video modelling, and social narratives (Will et al., 2018). Often, these interventions provide instruction of foundational concepts and role-playing or practice (Gates et al., 2016; Moody & Laugeson, 2020; Will et al., 2018). Despite all interventions differing in methodology and underlying foundation, there are common concepts which most Social Skills interventions involve. Social skills, in itself, is defined as socially acceptable, learned behaviours which allow individuals to function proficiently in social tasks; thus, most Social Skills interventions aim to improve social knowledge in order to facilitate to development of positive personal relationships (Moody & Laugeson, 2020; Will et al., 2018). Though, Social Skills interventions have been shown to be helpful for the treatment of ASC in adolescents, they often require the participants to have some verbal ability as well as low to average cognitive ability (Will et al., 2018). As individuals with ASC exhibit an array of different characteristics, Social Skills interventions may not be appropriate for all adolescents with ASC.

Due to the heterogeneity of ASC symptomology, as well as how one experiences ASC, there is no 'one-size fits all' treatment approach (Lord et al., 2020). Instead, literature suggests that treatment is focused on treating specific characteristics associated with ASC such as language or communication, maladaptive behaviours, sensory issues, or motor skills (Lord et al., 2020; Will et al., 2018). As such, there are many different approaches in treating children with ASC. This scoping review aims to assess the current literature surrounding interventions in place for children (0 to 18 years old) with ASC.

Aims and Objectives

The aim of this scoping review is to assess the current literature surrounding interventions in place for children (0-18 years old) with ASC, through mapping the specific components (e.g. mode of delivery, materials provided, and tailoring of intervention), underpinning theories/methodologies, and specific outcomes assessed in these therapeutic interventions.

The specified objectives for this review are:

1. To Determine the efficacy of interventions in place for children with autism; determine successful components of the interventions.
2. Determine most improved areas of specified outcomes (behavioural, cognitive, and socio-emotional) while using current interventions in place.

   Specified outcomes:

   a. After the intervention there were changes in the child's behaviours
      a. Reduction in the frequency of self-injurious behaviours
      b. Reduction in the severity of self-injurious behaviours

        - **c.** Reduction in the frequency, or severity of maladaptive behaviours
        - **d.** Improvements in internalising or externalising behaviour
        - **e.** Improvements in the independent daily living skills of the child’s behaviours
    - **b.** After the intervention there were changes in the child’s cognitive ability
        - **a.** Decrease ASC severity
        - **b.** Increase in the problem-solving skills
        - **c.** Increase in sustained attention
        - **d.** Increase in memory
        - **e.** Increase in Theory of the Mind
    - **c.** After the intervention there were changes in the child’s socio-emotional ability
        - **a.** Increase in relationship maintaining or building (not including ‘social etiquette’ skills such as reciprocating questions; asking ‘who’, ‘what’, ‘where’, ‘when’, questions; engaging in more play activities with other; learning imaginative play; etc.)
        - **b.** Decrease anxious-like behaviours
        - **c.** Decrease depressive-like behaviours
        - **d.** Increase in emotional regulation
        - **e.** Increase in quality of life

3. Determine the ways in which specific outcomes are characterised.

4.6 Methods

This review was performed in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews checklist and using recommendations from the Joanna Briggs Institute *Updated Methodological Guidance for the Conduct of Scoping* (PRISMA-ScR; Peters et al., 2020; Tricco et al., 2018). As this review will be used to inform a wider research project, no protocol was registered.

Search strategy

To conduct the search for articles, the following databases were searched using University of Gloucestershire's Library Discovery: PsychINFO (1806 to present); Elsevier ScienceDirect Journals, University of Gloucestershire Library Discovery; WorldCat.org; Wiley Online Library; WorldCat; MEDLINE; ArticleFirst; SpringerLink; Electronic Collections Online; Education Resources Information Center (ERIC); Electronic Books; OAIster; ABI/INFORM Global; ScienceDirect; WorldCat Dissertations and Theses; Emerald Group Publishing Limited; SAGE Journals; Directory of Open Access Journals, ProceedingsFirst, Oxford Journals, PapersFirst, GPO Monthly Catalog, JSTOR Biological Sciences Collection; ACM Digital Library; Oxford Art Online; Humanities International Complete; Walter de Gruyter eJournals; JSTOR Arts & Sciences V Collection; Business Source Complete; SocINDEX with Full Text (1881 to present); CINAHL with Full Text (1964 to present); APA PsycArticles; Psychology and Behavioral Sciences Collection (1943 to present). Keywords used in the search conduction included: terms for interventions: 'interventions' OR therapy; keywords for children with autism: 'children with autism' OR 'autistic children'. Screened articles were saved to a list on the University of Gloucestershire's Library database. Citations for the screened articles were then exported to Endnote and managed using this software.

Grey literature was not searched for this review as there are a number of documented discrepancies associated with grey literature. Search efficiency has been reported to significantly decline while searching grey literature, often leading to amended searches which may not meet aims (Adams et al., 2016). Grey literature also provides difficulty in replicating search results (Adams et al., 2016). Though, grey literature can be searched systematically, future searches are not likely to yield the same results (Adams et al., 2016). Having replicable searches is consequential to transparency in research, which allows for more rigorous and less biased reviews and articles (Viswanathan et al., 2017). Additionally, grey literature often includes articles which are not peer reviewed. Peer reviewed articles allow for higher quality research as experts from the field investigate the information provided in the study (Kelly et al., 2014).

Eligibility criteria

Eligible studies included peer reviewed studies which met the following inclusion criteria:

1. Studies include children, 0-18 years old, who have been diagnosed with Autism Spectrum Disorder
2. Studies are either an RCT, CT, or therapeutic intervention study with pre/post-test design, must include two of the following:
    a. Materials used in intervention
    b. Mode of delivery
    c. Who provided the intervention
    d. Tailoring involved in intervention
3. Studies include outcome measures on at least two of the following: 1. Behaviours, 2. Cognitive functioning, 3. Social-emotional
4. Researchers can gain access to article
5. Article must be in English or have an English translation

After discussion amongst the research team, the inclusion and exclusion criteria were amended before the secondary screening such that studies must report at least two outcome criteria and at least two components from the Template for Intervention Description and Replication checklist(TIDieR; Hoffman et al., 2014). This amendment was made to clarify the outcomes of interest to enable better discussion and exploration of the intervention characteristics included in the selected studies.

Non-eligible studies included studies with a population who had co-morbid psychiatric diagnoses as outcome criteria aimed to observe behavioural, cognitive, and socio-emotional outcomes only associated with ASC. Studies were also ineligible if they included participants who had a differing pervasive developmental disorder diagnosis, such as Pervasive Developmental Disorder- Not Otherwise Specified (PDD-NOS). Though in the Diagnostic and Statistical Manual of Mental Disorders-V, PDD-NOS is considered to be under the ‘Autism umbrella’, research has shown only 27% of children with PDD-NOS were identified as having ASC. Thus, studies were only eligible if all participants had a definitive diagnosis of ASC (APA, 2013; Mayes et al., 2013). However, studies which included co-morbid neurological diagnoses (e.g. epilepsy) or intellectual delays were eligible due to the extremely high number of these being linked with ASC (Lord et al., 2020).

Screening and Data extraction

Primary and secondary screenings were completed by reviewer KP. Data for the included studies was extracted using a Microsoft Excel spreadsheet. Extraction included: author(s), year of publication, country of origin, aims/purpose, study population and sample size, baseline characteristics, methodology, outcome areas, analysis appropriateness, and the study's usefulness in determining effectiveness, feasibility, appropriateness, and meaningfulness. Additionally, data extraction included using a Microsoft Excel to extract factors of the interventions in the included studies based on TIDieR (Hoffmann et al., 2014).

Synthesis

Included studies were descriptively analysed and a narrative synthesis was performed in line with Popay et al. (2006) steps for a narrative synthesis. A narrative synthesis provides a textual description rather than statistical analysis to describe the data extracted from the studies (Popay et al., 2006). This approach was chosen as a scoping review aims to provide comprehensive information on the current literature surrounding a particular topic (Tricco et al., 2018). Synthesis was also carried out using components from the TIDieR checklist (Hoffmann et al., 2014).

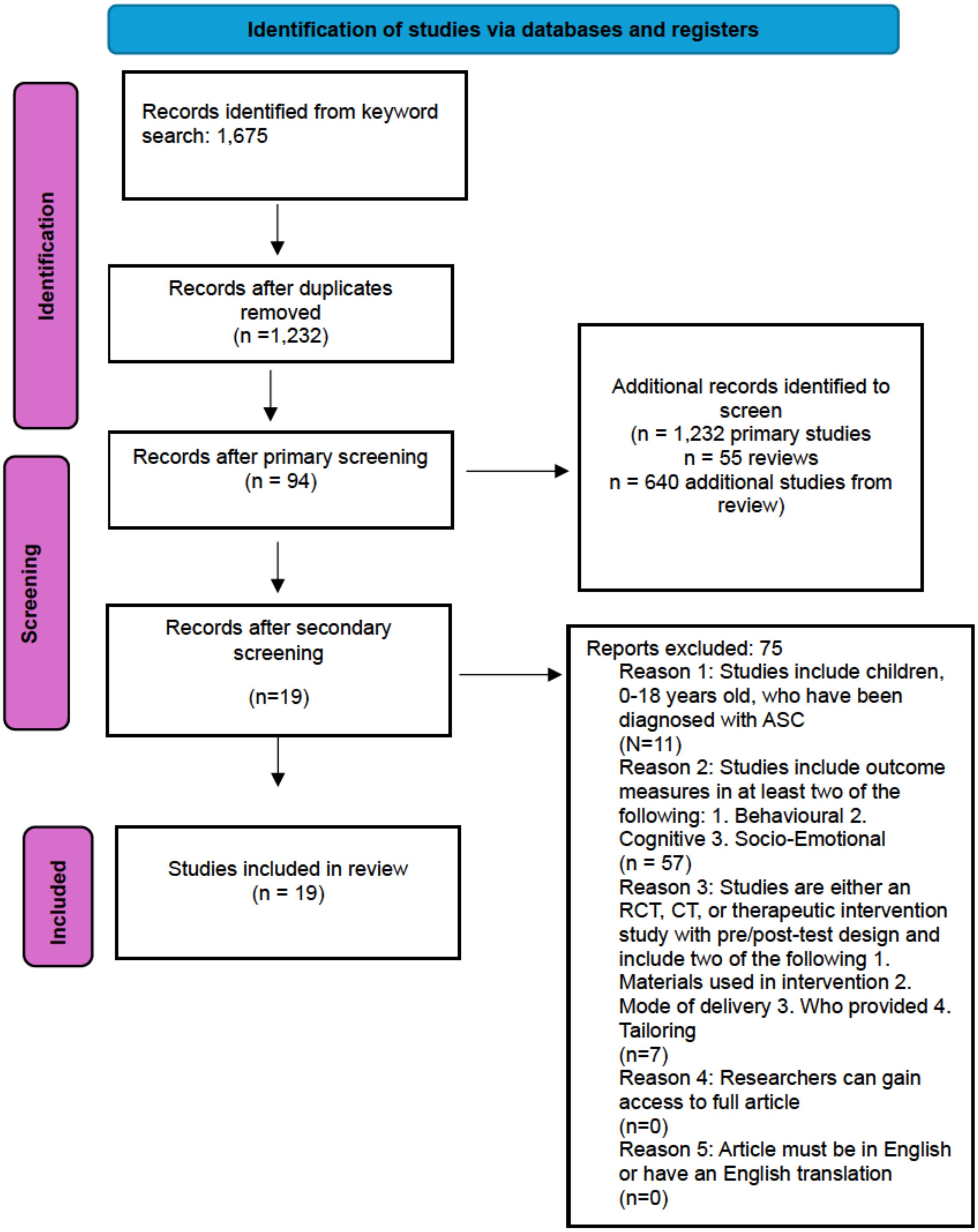
4.7 Results

Summary of search results

The initial search yielded 1,675 studies, after removing duplicates there were 1,232 studies. 55 review studies were identified adding 640 studies to the primary screening. After a primary screening there were 94 studies. The secondary screening was performed by K.P., leaving 19 studies which were selected for this review. Figure 3 shows the PRISMA numbers for the search results.

Figure 3

PRISMA Flow Diagram



Characteristics of studies included

There were seven designs used in the 19 studies selected. The study designs included a randomized controlled trial, a wait-list controlled design, a pre-test/post-test design, a quasi-experimental design, a mixed methods study design, a single subject multiple baseline, and a within-subjects design. See Table 4.4 for a summary of study designs used in each included study.

Table 4. 4

Summary of Study Design

Type of study design	Randomized controlled trial and waitlist control	Wait-list controlled trial	Pre-test/post-test design	Quasi-experimental design	Mixed methods design	Single subject multiple baseline	Within-subjects design
Authors	Beeger et al. (2015) DeVries et al. (2015)	Borgi et al (2016) Luxford et al. (2017) Schohl et al. (2014)	Bauminger (2007) Harris and Williams (2017) Scarpa and Reyes (2011) Smith et al. (2010)	Clarke et al. (2017) Eikeseth et al. (2012) Lanning et al. (2014) Vivanti et al. (2014) Zachor and Itzchak (2010)	Drmic et al. (2017) Schweizer et al. (2020)	Holm et al. (2014)	Kern et al. (2011) Rosenblatt et al. (2011)

Participant characteristics

Number of participants. One study reported two treatment groups, the first group consisted of 11 participants, the second group consisted of 16 participants (Bauminger, 2007). Beeger et al. (2015) reported that there were 45 participants in their treatment and 52 participants in their control group. One study reported that there were 44 participants (Drmic et al., 2017). Harris and Williams (2017) reported 26 participants in their study. One study reported that their comparison group had 12 participants and their treatment group involved 13 participants (Lanning et al., 2014).

One study reported 24 participants in their comparison group and 31 participants in their treatment group (Eikeseth et al., 2012). One study included 35 participants (Luxford et al., 2017). One study reported on 58 participants (Schohl et al., 2014). Schweizer et al. (2020) reported on 12 participants. Smith et al. (2010) reported 45 participants in their study. One study reported that their treatment group had 27 participants and their control consisted of 30 participants (Vivanti et al., 2014). Zachor and Itzchak (2010) reported 78 participants. One study reported on 24 participants (Rosenblatt et al., 2011). One study reported on 3 participants (Holm et al., 2014). One study reported on 24 participants (Kern et al., 2011). Clake et al. (2017) reported that their control and treatment group both consisted of 14 participants. One study reported on 11 participants (Scarpa & Reyes, 2011). Borgi et al. (2016) reported on that their treatment group consisted of 15 participants and their control group consisted of 13 participants. DeVries et al. (2015) reported 121 participants.

Participant gender. Only one study did not report on gender (DeVries et al., 2015). Eighteen studies reported more males than females for their study (Bauminger, 2007; Beeger et al., 2015; Borgi et al., 2016; Clarke et al., 2017; Drmic et al., 2017; Eikeseth et al., 2012; Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014; Luxford et al., 2017; Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Schohl et al., 2014; Schweizer et al., 2020; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010).

Participant age. Two studies reported that their age range of participants was six to 12 years old (Borgi et al., 2016; Schweizer et al., 2020). Bauminger (2007) reported an age range of eight to nine years old. One study reported an age range of seven to 12 years old (Beeger et al., 2015). One study reported a mean age of 12 years old with an age range from 11 to 14 years old (Clarke et al., 2017). One study reported that their participants were 13 to 15 years old (Drmic et al., 2017). One study reported an age range of six to nine years old (Harris & Williams, 2017). One study reported an age range of six to eight years old (Holm et al., 2014). Kern et al. (2011) reported that their participants were three to 12 years old. Lanning et al. (2014) reported that their comparison group was five to 14 years old and their treatment group was four to 15 years old. One study reported that their participants were eight to 12 years old (DeVries et al., 2015). Luxford et al. (2017) reported an age range of 11 to 14 years old. Eikeseth et al. (2012) reported that their comparison group was two to seven years old and their treatment group was two to six years old. One study reported on three different groups, the first group was five to 12 years old, the second group was 13 to 16 years old, and their third group was three years old (Rosenblatt et al., 2011). Scarpa and Reyes (2011) reported that their participants were five to seven years old. Schohl et al. (2014) reported that their participants were 11 to 16 years old. One group reported that their participants were two to six years old (Smith et al., 2010). One group reported that their treatment group was two and a half to six years old, while their comparison group was zero to six years old, both groups had a mean age of around three years old (Vivanti et al., 2014). One group reported that their comparison group was 15 to 33 months and their treatment group was 17 to 35 months (Zachor & Itzchak, 2010). See Table 4.5 for a summary or participant characteristics.

Table 4. 5

Summary of Participant Characteristics

Author	Total population	Males	Females	Age (years)
Zachor & Itzchak (2010)	N=78	N= 71	N=7	Treatment :1.4 to 2.9 Control: 1.25 to 2.75
Vivanti et al. (2014)	Treatment: N=27 Control: N=30	Treatment N= 23 Control N= 27	Treatment N=4 Control N= 3	Treatment: 2.5 to 6 Control: 0 to 6
Smith et al. (2010)	N=45	N = 33	N= 12	2 to 6
Schweizer et al. (2020)	N=12	N= 7	N=5	6 to 12
Schohl et al. (2014)	N=58	N= 47	N= 11	11 to 16
Scarpa and Reyes (2011)	N=11	N= 9	N= 2	5 to 7
Rosenblatt et al. (2011)	N= 24	N= 22	N= 2	1.5 to 12; 2.13 to 16; 3.4 to 15
Eikeseth et al. (2012)	Treatment: N= 31 Comparison: N=24	Treatment N=29 Comparison N= 20	Treatment N= 6 Comparison N=4	Treatment: 2 to 6 Comparison: 2 to 7
Luxford et al. (2017)	N= 35	N =31	N= 4	11 to 14
DeVries et al. (2015)	N=121	N/A	N/A	8 to12
Lanning et al. (2014)	Treatment: N= 13 Comparison: N= 12	Treatment N= 9 Comparison N=9	Treatment N= 4 Comparison N=3	Treatment: 4 to 15 Comparison: 5 to 14
Kern et al. (2011)	N=24	N= 18	N= 6	3 to 12
Holm et al. (2014)	N=3	N= 3	N/A	6 to 8
Harris and Williams (2017)	N =26	N= 22	N= 4	6 to 9
Drmic et al. (2017)	N=44	N= 38	N= 6	13 to 15
Clarke et al. (2017)	Treatment= 14 Control: N= 14	Treatment N= 14 Control N= 14	N/A	11 to 14
Borgi et al. (2016)	Treatment: N=15 Control: N=13	Treatment: N= 15 Control N =13	N/A	6 to 12
Beeger et al. (2015)	Treatment: N=45 Control N= 52	Treatment: N= 41 Control N= 49	Treatment N= 4 Control N= 3	7 to 12
Bauminger (2007)	First treatment group N= 11 Second treatment group N=16	First cohort: N= 10 Second cohort: N= 15	First cohort: N=1 Second cohort: N= 1	8 to 9

Intervention characteristics

Theory. There were nine different theories which informed the 19 studies included in this review. Five studies reported Cognitive Behavioural Therapy as the basis for their intervention (CBT; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Scarpa & Reyes, 2011; Bauminger, 2007). Of the studies which used CBT, only one reported that it utilised an integrative method, applying an ecological conceptual basis which incorporated more factors than a common manualised CBT approach, they also reported that they incorporated Social Skills Training into their intervention (Bauminger, 2007). The next most common theoretical approach included Applied Behavioural Analysis (ABA), three studies reported an ABA basis for their interventions (Zachor & Itzchak, 2010; Smith et al., 2010; Eikeseth et al., 2012). Two of the studies which featured an ABA approach also included a comparison model which used an eclectic approach (Zachor & Itzchak, 2010; Eikeseth et al., 2012). One study which used an ABA-based approach used techniques drawn from Pivotal Response Treatment (Smith et al., 2010). One study used a Behavioural intervention which incorporated educational strategies within a relationship-based framework for their experimental group and comparison group which included an eclectic approach (Vivanti et al., 2014). The eclectic approaches in all three studies included a variety of theoretical approaches including ABA, Developmental, Developmental Individual Difference Relationship, The Treatment and Education of Autistic and Related Communication Handicapped Children, and sensory-motor therapies (Zachor & Itzchak, 2010; Eikeseth et al., 2012; Vivanti et al., 2014). One study reported using a Theory of the Mind based intervention (Beeger et al., 2015). Schweizer et al. (2020) reported on an Art Therapy intervention. One study described their intervention as Social Skills and Relationship Based (Schohl et al., 2014). One study explored a novel movement-based complementary and alternative medicine approach (Rosenblatt et al., 2011). DeVries et al. (2015) investigated an intervention which was based on Working Memory and Cognitive Flexibility Training. Additionally, five studies utilised therapeutic riding through an Animal Assisted Therapy (AAT), otherwise called Animal Assisted Intervention, Animal Assisted Activities, or Equine Assisted Activities (Borgi et al., 2016 Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014). However, none of these studies reported a specified underlying theory included in their intervention.

Mode of delivery. The most common mode of delivery was face-to-face; 18 studies used a face-to-face approach (Bauminger, 2007; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Scarpa & Reyes, 2011; Beeger et al.,2015; Borgi et al., 2016 Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014; Zachor & Itzchak, 2010; Smith et al., 2010; Eikeseth et al., 2012; Rosenblatt et al., 2011; Schohl et al., 2014; Schweizer et al., 2020; Vivanti et al., 2014). One study used a laptop for their mode of delivery, more specifically they used a program installed on the participants laptop (DeVries et al., 2015).

Group versus Individual sessions. There were 14 studies which reported that the interventions were delivered through group therapy (Bauminger, 2007; Beeger et al.,2015; Borgi et al., 2016 Clarke et al., 2017; Drmic et al., 2017; Harris & Williams, 2017; Lanning et al., 2014; Luxford et al., 2017 Eikeseth et al., 2012; Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Schohl et al., 2014; Vivanti et al., 2014; Zachor & Itzchak, 2010). One study reported that sessions were either private or semi-private, including one other person (Lanning et al., 2014). Another study used both individual and group sessions (Borgi et al., 2016). Schweizer et al. (2020) reported that their intervention included individual sessions. Zachor and Itzchak (2010) and Eikeseth et al. (2012) reported on two different interventions, they both reported that the intervention which was ABA based used one-to-one sessions and the intervention which was ‘eclectic’ used both one to one and group sessions. Kern et al.(2011) and Holm et al. (2014) did not specify if the intervention was held with a group or one to one. DeVries et al. (2015) did not report if their intervention was individual or group, however, they did report that their intervention was installed through a program on each participant individual laptop.

Intensity of intervention. Most intervention sessions were approximately one hour in length, with five studies reporting interventions lasting one hour (Beeger et al.,2015; Clarke et al., 2017; Kern et al., 2011; Lanning et al., 2014; Scarpa & Reyes, 2011). One study reported sessions were 60 to 70 minutes in length (Borgi et al., 2016). On intervention lasted one hour to one and a half hours (Drmic et al. 2017). There were two studies which reported that each session lasted 90min (Luxford et al., 2017; Schohl et al., 2014). Another four studies reported sessions lasting for 45 minutes (Schweizer et al., 2020; Harris & Williams, 2017; Holm et al., 2014; Rosenblatt et al., 2011). Two studies which both compared ABA to eclectic models reported that session duration was dependent on the child's needs (Zachor & Itzchak, 2010; Eikeseth et al., 2012). One of the ABA versus eclectic model study reported that the session durations were dependent on the child, however the ABA intervention was typically 15-37 hours per week (Eikeseth et al., 2012). Zachor and Itzchak (2010) reported that on average participants had about 20 hours per week of their intervention. One study reported that for the first 6 months sessions were about 15hr per week (Smith et al., 2010). Another study reported that the intervention was about 15-25 hours per week (Vivanti et al., 2014). One study which involved a computer game reported that log in times and duration of time spent on the game was recorded separately; however, they did not report the durations (DeVries et al., 2015).

Where. One study reported that their intervention was held at either day care, home, or preschool (Smith et al., 2010). Six studies report that their intervention was held at school (Bauminger, 2007; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Eikeseth et al., 2012; Zachor & Itzchak, 2010). Five studies reported that their intervention was held at a riding centre (Borgi et al., 2016 Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014). One study reported that the intervention was held in a room at a child-care centre (Vivanti et al., 2014). Five studies did not specify where sessions were held (Beeger et al., 2015; Schohl et al., 2014; Schweizer et al., 2020; Rosenblatt et al., 2011; DeVries et al., 2015). Though, one study did mention a prerequisite for their intervention is a quiet space with a variety of art materials (Schweizer et al., 2020).

Who provided. Only one study used a specific computer software to deliver their intervention (DeVries et al., 2015). Special education teaches provided the intervention for four studies (Bauminger, 2007; Eikeseth et al., 2012; Vivanti et al., 2014; Zachor & Itzchak, 2010). For Zachor and Itzchak (2010) and Eikeseth et al. (2012) special education teachers were only involved in eclectic intervention. Nine studies reported that a qualified individual or certified therapist led the intervention (Beeger et al.,2015; Drmic et al., 2017; Clarke et al., 2017; Eikeseth et al., 2012; Scarpa & Reyes, 2011; Schweizer et al., 2020; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010). For five studies, certified riding instructors provided the intervention with assistance from aids (Borgi et al., 2016 Kern et al., 2011; Lanning et al., 2014; Holm et al., 2014; Harris & Williams, 2017). Four studies had the researcher involved in leading the intervention (Clarke et al., 2017; Luxford et al., 2017;

Rosenblatt et al., 2011; Schohl et al., 2014). Only one study reported that teaching assistants aided in providing the intervention (Luxford et al., 2017).

Parent involvement. In 13 studies parents were involved in the intervention in some capacity (Zachor & Itzchak, 2010; Kern et al., 2011; Eikeseth et al., 2012; Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Schohl et al., 2014; Schweizer et al., 2020; Lanning et al., 2014; Holm et al., 2014; Smith et al., 2010; Schweizer et al., 2020; Vivanti et al., 2014; Drmic et al., 2017). Seven studies had parents help set goals for their children (Scarpa & Reyes, 2011; Schohl et al., 2014; Schweizer et al., 2020; Zachor & Itzchak, 2010; Eikeseth et al., 2012; Lanning et al., 2014; Holm et al., 2014). Parent training or a parent group was included in six studies (Smith et al., 2010; Schweizer et al., 2020; Scarpa & Reyes, 2011; Schohl et al., 2014; Vivanti et al., 2014; Drmic et al., 2017).

Tailoring or Modifications. Most interventions did not specify on tailoring or modifications, seven studies specified that they set individual goals with parents (Scarpa & Reyes, 2011; Schohl et al., 2014; Schweizer et al., 2020; Zachor & Itzchak, 2010; Eikeseth et al., 2012; Lanning et al., 2014; Holm et al., 2014). One intervention specified an extensive amount of modification (Drmic et al., 2017). Drmic et al. (2017) adapted a Face Your Fears, CBT based intervention for a school in Singapore. The FYF intervention needed to be culturally adapted as well as modified to be given in a school. Two studies reported shortened versions of interventions (Beeger et al.,2015; Scarpa & Reyes, 2011). Beeger et al. (2015) reported a shortened version of the Theory of Mind intervention, they did not report on why this modification was made. Scarpa and Reyes (2011) reported a shortened version of a manualised CBT as used by Sofronoff et al. (2005; 2007); they discuss how they incorporated more songs, stories and play activities as well as a parent group and shorter sessions. Schweizer et al. (2020) reported that although sessions are as standardised as possible, they needed to be tailored towards individual needs, child's preferences, type of art materials, and skills.

Outcome measures

Caregivers or Parents reported. There were 25 different parent reported measures which were used for assessing outcomes in the studies included for this review. One study used the Aberrant Behavior Checklist (Holm et al., 2014). One study used the Behavioral Assessment System for Children (Rosenblatt et al., 2011). One study used a Behavior Monitoring Sheet (Scarpa & Reyes, 2011) DeVries et al. (2015) and Schweizer et al. (2020) used the Behavior Rating Inventory of Executive Function, DeVries et al. (2015) used the Dutch version of this measure. One study used the Child Behavior Checklist (Smith et al., 2010). Lanning et al. (2014) used the Child Health Questionnaire. Holm et al. (2014) used the Childhood Autism Rating Scale. One study used the Children's Social Behaviour Questionnaire (Schweizer et al., 2020). Beeger et al. (2015) used the Disruptive Behaviour Disorders Rating Scale. The Paediatric Quality of Life was used by two studies (Lanning et al., 2014; DeVries et al., 2015). Four studies employed the Social Responsiveness Scale (Holm et al., 2014; Luxford et al., 2017 Schohl et al., 2014; Smith et al., 2010). Quality of Life Enjoyment and satisfaction Questionnaire was used by Kern et al. (2011). Screen for Child Related Anxiety Disorders was used by Drmic et al. (2017). Two studies used the Sensory Profile-Caregiver Questionnaire (Holm et al., 2014; Kern et al., 2011). Social Skills Rating Scale was used by Schohl et al. (2014); while the Social Skills Questionnaire was used by one study (Beeger et al., 2015). Two studies used the Spence Children's Anxiety Scale (Clarke et al., 2017; Luxford et al., 2017). The Children's Social Behavior Questionnaire, Dutch version, was used by DeVries et al. (2015). One study used the Theory of Mind Checklist (Beeger et al., 2015). One study used the Treatment Satisfaction Survey (Kern et al., 2011). Semi-structured interviews were used by two studies (Clarke et al., 2017; Drmic et al., 2017). Additionally, Scarpa & Reyes (2011) used qualitative data to assess their outcomes.

Clinician reported. There were 12 different clinician reported measures used for the studies in this review. One study used the Erikson Flanker task to measure attentional control (Luxford et al, 2017). Two studies used the Childhood Autism Rating Scale (Kern et al., 2011; Eikeseth et al., 2012). Schweizer et al. (2020) used the Behavior Rating Inventory of Executive Functioning. One study used Timberlawn Parent-Child Interaction Scale (Kern et al., 2011). Borgi et al. (2016) used the Tower of London scale. One study used the Peabody Language Scale, the Preschool Language Scale, and the MacArthur Communicative Development Inventory (Smith et al., 2010). Vivanti et al. (2014) and Zachor and Itzchak (2010) both used the Mullen Scales of Early Learning and the Autism Diagnostic Observational Schedule.

Children reported. 21 different child reported measures were used. One study used The Corsi block tapping task, The Gender-emotion switch-task, The N-back task, The Number-gnome switch task, Adaptation for the Stop-task, and the Sustained attention response task (DeVries et al., 2015). One study used the Aberrant Behavioral Checklist (Rosenblatt et al., 2011). One study used the Coping Scale for Children and Youth (Clarke et al., 2017). Schohl et al. (2014) used the Friendship Qualities Scale. Smith et al. (2010) used the Merril-Palmer-Revised Scales of Development. One stud used the Paediatric Quality of Life Scale (Lanning et al., 2014). Schohl et al. (2014) used the Quality of Socialization Questionnaire. One study used the Screen for Child Related Anxiety Disorders (Drmic et al., 2017). The Social Interactions Anxiety Scale was used by one study (Schohl et al., 2014). The Social Worries Questionnaire was used by one study (Luxford et al., 2017). Two studies used the Spence Children's Anxiety Scale (Clarke et al., 2017; Luxford et al., 2017). One study used the Test of Adolescent Skills and Knowledge (Schohl et al., 2014). Self-Perception Profile for children was used by Schweizer et al. (2020). The Theory of Mind test was used by one study (Beeger et al., 2015). One study used the Levels of Emotional Awareness Scale for Children (Beeger et al., 2015). Scarpa and Reyes (2011) reported using qualitative data, while Clarke et al. (2017) used semi-structured interviews. One study used The Strange Story: Theory of Mind measure, along with The Emotion Inventory, the Delis Kaplan Executive Function System, the Affect Matching Measure, and the Problem-Solving Measure (Bauminger, 2007).

Teachers reported. There were 12 different teacher reported measures used in the studies in this review. One study used the Aberrant Behavior Checklist-Community edition (Harris & Williams, 2017). Harris and Williams (2017) used the Childhood Autism Rating Scale. One study used the Behavior Rating Inventory of Executive Functioning (Schweizer et al., 2020). One study used the Children's Social Behavior Questionnaire (Schweizer et al., 2020). Drmic et al. (2017) used the Developmental Behavioral Checklist. The School Anxiety scale was used by one study (Luxford et al., 2017). One study used Social Skills Questionnaire (Beeger et al., 2015). The Social Skills Rating Scale was used by one study (Schohl et al., 2014). Three studies used the Social Responsiveness Scale (Luxford et al., 2017; Schohl et al., 2014; Beeger et al., 2015). The Social Worries Questionnaire was used by one study (Luxford et al., 2017). The Measurement of Pet Intervention Checklist was used by Harris and Williams (2017). The Theory of Mind Checklist was used by one study (Beeger et al., 2015).

Clinician and parent or teacher reported. Five studies used the Vineland Behaviour Scales, this scale is done in conjunction with parent or teacher and clinician report (Borgi et al., 2016 Eikeseth et al., 2012; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010).

Observable. One study used observable measures, Bauminger (2007) employed the Social Interaction Observation Scale and the Companionship Measure.

Measures used for behavioural outcomes. Harris and Williams (2017) and Holm et al. (2014) reported on the Aberrant Behaviour Checklist for children. Rosenblatt et al. (2011) reported changes in the Behavioral Symptom Index composite of the Behavioral Assessment System for Children for all participants, they also utilised the Aberrant Behaviour Checklist. One study used the Disruptive Behaviour Disorders rating scale (Beeger et al., 2015). One study used Development of Behavioral checklist (Drmic et al., 2017). The Child Health Questionnaire was used by one study (Lanning et al., 2014). Rosenblatt et al. (2011) used The Behavioral Assessment System for Children and the Aberrant Behavioral Checklist. A behavioural monitoring sheet was used in one study (Scarpa & Reyes, 2011). The Child Behavior Checklist was used in one study (Smith et al., 2010). Borgi et al. (2016), Eikeseth et al. (2012), Schohl et al. (2014); Smith et al. (2010), Vivanti et al. (2014) and Zachor and Itzchak (2010) used the Vineland Adaptive Behavior Scale. Smith et al. (2010) reported on the Child Behavior Checklist. A combination of results from the Behavior Inventory of Executive Functioning, Children's Social Behavior Questionnaire, and Self-Perception Profile for Children indicated behavioural changes at home, in school, and during Art Therapy; (Schweizer et al., 2020). Observation of behaviours was also used by one study (Holm et al., 2014). One study used the Behavior Inventory rating of executive functioning, The Childrens Social Behavior questionnaire, and The Disruptive Behavior Disorders Rating Scale (DeVries et al., 2015). Another study also utilised the Children Social Behavior Questionnaire (Schweizer et al., 2020). Additionally, Schweizer et al. (2020) used therapist observation.

Measures used for cognitive outcomes. Beeger et al. (2015) used the Theory of the Mind child-based measure. One study used the Tower of London assessment (Borgi et al., 2016). Three studies used the Social Responsiveness Scale to assess ASC severity (Clarke et al., 2017; Holm et al., 2014; Smith et al., 2010). Kern et al., (2011) used the Child Autism Rating scale, along with the Timberlawn Parent-Child Interaction Scale. The Child Autism Rating Scale was also used by Eikeseth et al. (2012). The Autism Diagnostic Observation Scale was used by three studies (Schohl et al., 2014; Vivanti et al., 2014; Zachor & Itzchak, 2010). One study used the Behaviour Rating of Inventory of Executive Functioning (Schweizer et al., 2020). Additionally, Schweizer et al. (2020) used therapist observation. One study used the Corsi block tapping test, the Gender-Emotion switch task, the N-back task, the number-gnome switch task, an adaption of the classical stop-task, and the Sustained attention response task (DeVries et al., 2015).

Measures used for socio-emotional outcomes. One study used the Social Interaction Scale, Affective Matching measure, Emotion Inventory, and Companionship Measure to measure socio-emotional outcomes (Bauminger, 2007). Beeger et al. (2015) used the Theory of Mind advanced test, the Emotional Awareness Scale, and the Theory of Mind behaviour checklist. Clarke et al. (2017) used the Spence Children's Anxiety Scale, Coping scale for young children and youth, as well as interviews. Quality of life and enjoyment satisfaction questionnaire was used in Kern et al. (2011). The Peadiatric quality of life questionnaire was used by two studies (DeVries et al., 2015; Lanning et al., 2014). One study used The Child Health Questionnaire (Lanning et al., 2014). The Behavioral Assessment for Children was used by Rosenblatt et al. (2011). One study used a report on emotional regulation strategies (Scarpa & Reyes, 2011). One study used the Quality of Socialization Questionnaire, the friendship Qualities scale, and the Social Interaction Anxiety (Schohl et al., 2014). One study used the Self-perception profile for children (Schweizer et al. 2020). Additionally, Schweizer et al. (2020) used therapist observation. Drmic et al. (2017) used the Screen for child related anxiety disorders, as well as parent interviews. Rosenblatt et al. (2011) used the Externalization and Internalization composite scales of the BASC-2, with the depression subscale of the Internalization composite score improving significantly.

Outcome areas

Behavioural. 14 studies assessed behavioural outcomes (Borgi et al., 2016 Drmic et al., 2017; Clarke et al., 2017; Harris & Williams, 2017; Lanning et al., 2014; DeVries et al., 2015 Holm et al., 2014; Eikeseth et al., 2012; Rosenblatt et al., 2011; Schohl et al., 2014; Scarpa & Reyes, 2011; Schweizer et al., 2020; Vivanti et al., 2014; Smith et al., 2010; Zachor & Itzchak, 2010). No studies reported on reduction in the frequency of self-injurious behaviours, or reduction in the severity of self-injurious behaviours.

Five studies reported on improvements in maladaptive behaivour (Clarke et al., 2017; Holm et al., 2014; Eikeseth et al., 2012; Schohl et al., 2014; Scarpa & Reyes, 2011). For Clarke et al. (2017) the data suggested that participants were less likely to engage in maladaptive behavioural strategies, more specifically behavioural avoidance. Additionally, Clarke et al. (2017) reported that parent interview data showed behavioural changes in their children. For Holm et al. (2014) changes in parent-identified target behaviours showed mixed results; showing that increasing the dosing of weekly therapeutic sessions did have an impact on the magnitude of parent-identified target behaviours. Eikeseth et al. (2012) reported that adaptive behaviour scores were significantly higher for the children receiving the Early Intensive Behavioural Intervention; maladaptive behaviour, excess and deficit behaviours which are associated with ASC also improved. Schohl et al. (2014) found a decrease in parent and teacher reported problem behaviours, including a decrease in fidgeting, aggressive acts, poor temper control, or impulsive acts. One study reported fewer and shorter ‘outbursts’ as reported by parents (Scarpa & Reyes, 2011).

Five studies reported on improvements in externalising or internalising behaviours (Harris & Williams, 2017; DeVries et al., 2015; Rosenblatt et al., 2011; Schweizer et al., 2020; Smith et al., 2010). Harris and Williams (2017) reported significant reductions in hyperactivity. Rosenblatt et al. (2011) reported improved behavioural composite score on one measure. DeVries et al. (2015) found that working memory training had the biggest impact on ADHD-like behaviour versus flexibility training and mock-training. Smith et al. (2010) reported improvements in problem behaviour. One study reported that for one participant there were no significant improvements in behaviour as reported on certain measures, however parents, teachers and child comments along with video observations indicated improved behaviour (Schweizer et al., 2020) However, Schweizer et al. (2020) reported that a combination of results from measures indicated there were behavioural changes at home, in school, and during Art Therapy ‘flexibility’ and ‘social behaviour’ were also shown to improve.

Four studies reported on improvements in independent daily living skills (Lanning et al., 2014; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010). Positive effects on general behaviour were reported by parents for Lanning et al. (2014); additionally, physical health benefits were reported including less difficulty doing chores and participating in more sport. Three studies discussed improvements in adaptive behaviour including daily living skills (Smith et al., 2010; Zachor & Itzchak, 2010; Vivanti et al., 2014). However, Zachor and Itzchak (2010) reported that progress was only observed while using raw scores of the daily living skills subdomain. Vivanti et al., (2014) explored an Early Denver Start Model interventions versus an eclectic intervention and reported that both groups made significant gains in adaptive behaviour.

No significant effects associated with behavioural outcomes were found for Drmic et al., (2017) or Borgi et al. (2016).

Cognitive. 14 studies reported on cognitive outcome areas (Bauminger, 2007; Beeger et al.,2015; Borgi et al., 2016 Harris & Williams, 2017; Kern et al., 2011; DeVries et al., 2015 Luxford et al., 2017; Clarke et al., 2017; Holm et al., 2014; Eikeseth et al., 2012; Schohl et al., 2014; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010).

Six of those studies only reported on autism severity or autism symptoms as their cognitive outcome (Harris & Williams, 2017; Kern et al., 2011; Schohl et al., 2014; Eikeseth et al., 2012; Smith et al., 2010; Zachor & Itzchak, 2010). Harris and Williams (2017), Kern et al. (2011), and Schohl et al. (2014) reported significant reduction in severity of ASC symptoms; in contrast, two studies reported non-significant change in autism rating across participants (Holm et al., 2014; Vivanti et al., 2014). Smith et al. (2010) reported a decrease in autism symptoms as well. Zachor and Itzchak, (2010) reported a relative stability in autism severity across groups. In a within-group comparison, Eikeseth et al. (2012) reported a significantly decreased autism rating throughout treatment.

Three studies reported on increased problem-solving skills (Bauminger, 2007; Borgi et al., 2016; Clarke et al., 2017). One study discussed improvements in executive abilities, more specifically in problem-solving tasks (Borgi et al., 2016). Clarke et al. (2017) also reported that their analysis indicated those in the experimental group were more likely to engage in problem-solving strategies and in follow-up data, participants were found to be less likely to engage in cognitive avoidance tactics. Bauminger (2007) reported consistent improvements in social cognition which involved problem-solving capabilities.

One study discussed child reported improvements in Theory of Mind understanding (Beeger et al., 2015).

One study reported on increase in memory (DeVries et al., 2015); and two studies reported on sustained attention (DeVrie et al., 2015; Luxford et al., 2017). In DeVries et al. (2015) improvements in working memory, attention, flexibility, parent-rated executive functioning; however, the adaptive-intervention-conditions did not yield a larger impact than mock-training. DeVries et al. (2015) did report that working-memory training improved working memory more than other intervention conditions (flexibility training and mock-training). Luxford et al. (2017) reported less distractibility overall in their intervention group, though they did not find associations with improvements regarding attentional control and attention to threat.

Socio-emotional. Twelve studies reported on socio-emotional outcome areas (Bauminger, 2007; Beeger et al.,2015; Drmic et al., 2017; Clarke et al., 2017; Kern et al., 2011; Lanning et al., 2014; DeVries et al., 2015; Luxford et al., 2017; Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Schohl et al., 2014; Schweizer et al., 2020).

Four studies indicated reported on relationship maintaining or building (Beeger et al., 2015; Lanning et al., 2014; Schohl et al., 2014; Schweizer et al., 2020). Schohl et al. (2014) reported that the frequency of invited get-togethers' increased among the experimental group and Lanning et al. (2014) reported significant improvements in social functioning, emotional functioning and improved areas of self-esteem. One study reported that children improved on social behaviour, such as they were more willing to communicate, ask for help, or showed more self-confidence (Schweizer et al., 2020). Beeger et al. (2015) reported that their intervention improved theory of the mind, however it did not improve more advanced theory of the mind interactions which involved emotional understanding and response to others.

Four studies reported on a decrease in anxious-like behaviours (Clarke et al., Drmic et al., 2017; Luxford et al., 2017; Schohl et al., 2014). Drmic et al. (2017) Luxford et al. (2017) and Clarke et al. (2017) reported significant reductions in anxiety symptoms. With Luxford et al. (2017) also reporting reductions in school anxiety or social worry reported by parents, children and teachers. Though, social anxiety is not specifically targeted in the PEERS intervention, social anxiety amongst the experimental group was observed to decrease (Schohl et al., 2014).

One study reported improvements in depressive-like behaviours (Rosenblatt et al., 2011). Rosenblatt et al. (2011) reported that among its latency age participants (ages five to twelve years old) there were greater changes in externalization and internalization.

Three studies reported on increased emotional regulation (Bauminger, 2017; Scarpa & Reyes, 2011; Schweizer et al., 2020). One study reported decreased mood intensity and increased mood regulation, indicating enhanced emotional regulation (Scarpa & Reyes, 2011). One study reported that qualitative data reported that the children were happier, more stable, had an improved ‘sense of self’, and were more efficient at emotion regulation (Schweizer et al., 2020). Bauminger (2007) reported improvements in ability to define and recognise emotions, as well as abilities involved in awareness of others and a better understanding of others.

Four studies reported on quality-of-life improvements (DeVries et al., 2014; Drmic et al., 2017; Kern et al., 2011; Lanning et al.,2014). Lanning et al. (2014) reported that participants in the comparison group exhibited improvements in self-esteem. Additionally, for one study their semi-structured interviews showed that almost half of the participants parents reported improvement in emotional well-being of their child (Drmic et al., 2017). Two studies reported improved quality-of-life (Kern et al., 2011; DeVries et al., 2015). Kern et al. (2011) reported improvements in quality-of-life over the entire course of the study and significant improvement in mood and tone during riding therapy. DeVries et al. (2014) reported that quality of life improved equally across their three interventions (working-memory training, flexibility training, and mock-training). See Table 4.6 for a detailed summary of studies.

Table 4. 6

A Detailed Summary of the Studies Included

Author and study design	Intervention or program	Theoretical or Intervention Approach	Method of collection	Sample Age (years)	Changes in outcome area		
					Behaviour	Cognitive	Socio-Emotional
Zachor & Itzchak (2010) Quasi-experimental	Applied Behavioural Analysis vs. eclectic	Applied Behavioural Analysis vs. eclectic	Clinician and Parent or teacher: Vineland adaptive behavior Scale Parent: Autism Diagnostic Interview Clinician: Autism Diagnostic Observational Schedule	C: 1.25 to 2.75 T:1.4 to 2.9	X	X	
Vivanti et al. (2014) Quasi- experimental	Early Denver Start Model	Educational strategies within a relationship based framework	Clinician and Parent or teacher: Vineland adaptive behavior Scale Clinician: MacArthur Communicative Development Inventory, Autism Diagnostic Observational Schedule	C: 0 to 6 T:2.5 to 6	X	X	
Smith et al. (2010) Pre-test/post-test	The Novia Scotia early intensive behaviour intervention	Novel Community-Based Early Intervention	Clinician and Parent or teacher: Vineland adaptive behavior Scale Parent: Child Behavior Checklist, Social Responsiveness Scale Child: Merril-Palmer Scales of Development Clinician: (see scoping review paper)	2 to 6	X	X	
Schweizer et al. (2020) Mixed-methods	Images of Self	Art therapy	Parent: Behaviour Rating Inventory of Executive Function, Childrens Social Behaviour QuestionnaireChild: Self-Perception Profile for Children. Teacher: Behavior Rating Inventory of EF, Childrens Social Behaivour Questionnaire	6 to 12	X		X
Schohl et al. (2014) Randomized waitlist-controlled trial	PEERS intervention	Social skills based and relationship based	Parent: Quality of Socialization Questionnaire, Social Skills Rating Scale Child: Friendship Qualities Scale, Quality of Socialization Questionnaire, Social Interactions Anxiety Scale, Test of Adolescent Skills and Knowledge Teacher: Social Responsiveness Scale	11 to 16	X	X	X
Scarpa and Reyes (2011) Pre-test/post-test	CBT used by Sofronoff et al. (2005, 2007)	CBT	Parent: Behavior Monitoring Sheet, Qualitative Data Child: Qualitative data	5 to 7	X		X
Luxford et al. (2017) Randomized waitlist controlled trial	Exploring Feelings	CBT	Parent: Spence Childrens Anxiety Scale Child: Social Worries Questionnaire, Spence Childs Anxiety Scale. Teacher: School Anxiety Scale, Social Responsiveness Scale, Social Worries Questionnaiire Clinician: (see scoping review paper)	11 to 14		X	X

Table 4. 7

A Detailed Summary of the Studies Included (cont.)

Author and study design	Intervention or program	Theoretical or Intervention Approach	Method of collection	Sample Age (years)	Changes in outcome area		
					Behaviour	Cognitive	Socio-Emotional
Eikeseth et al. (2012) Quasi- experimental	Early Intensive Behavioural Intervention vs. Treatment as usual	Applied Behavioural Analysis vs. Eclectic	Clinician and parent or teacher: Vineland adaptive behavior scale Clinician: Childhood Autism Rating Scale	C: 2 to 7 T: 2 to 6	X	X	
DeVries et al. (2015) RCT	Braingame Brian	Working memory and cognitive flexibility-training	Parent: Behavior Rating Inventory of Executive Function, Paediatric Quality of Life, The Children's Social Behavior Questionnaire	8 to 12	X	X	X
Lanning et al. (2014) Quasi- experimental	Equine-assisted Activities	Equine-assisted Activities	Parent: Child Health Questionnaire, Paediatric Quality of Life Child: Paediatric Quality of Life,	C: 5 to 14 T:4 to 15	X		X
Kern et al. (2011) Within-subjects	Spirit Horse	Equine-assisted Activities	Parent: Quality of Life Enjoyment and Satisfaction Questionnaire, Sensory Profile-Caregiver Questionnaire, Treatment Satisfaction Survey Clinician: Childhood Autism Rating Scale, Timberlawn Parent-Child Interaction Scale	3 to 12		X	X
Holm et al. (2014) Single subject, multiple baseline	Nickers 'N Neighs	Equine-assisted Therapy	Parent: Aberrant Behavior Checklist, Childhood Autism Rating Scale, Social Responsiveness Scale,	6 to 8	X	X	
Harris and Williams (2017) Pre-test/post-test	Horse Riding Intervention	Animal assisted Intervention	Teacher: Aberrant Behavior Checklist-Community edition, Childhood Autism Rating Scale, The Measurement of Pet Intervention Checklist	6 to 9	X	X	
Drmic et al. (2017) Mixed-methods	Facing Your Fears	Cognitive-Behavioural Therapy	Parent: Semi-structured interview, Screen for Child Related Anxiety Disorders Teacher: Developmental Behavioral Checklist	13 to 15	X	X	X
Clarke et al. (2017) Quasi- experimental	School-based CBT	Cognitive-Behavioural Therapy	Parent: Semi-structured interview, Spence Childrens Anxiety Scale Child: Coping Scale for Children and Youth, Spence Children Anxiety Scale, Semi-structured interview	11 to 14			
Borgi et al. (2016) Randomised waitlist-control trial	Equine-assisted therapy	Equine-assisted Therapy	Clinician and parent or teacher: Vineland adaptive behavior scale Clinician: Tower of London	6 to 12	X	X	

4.8 Discussion

The aim of the overall evidence synthesis is to gain insight from the existing literature on interventions for children with ASC and interventions for children who have experienced physical abuse, in order to provide insight into the needs of children with ASC who have experienced physical abuse. As the literature is scarce, there are a very limited number of studies which discuss the therapeutic needs of children with ASC who have experienced physical abuse. As such, there is a need for a more nuanced intervention for this population. This scoping review and the previously discussed systematic review will help to provide more information on the needs of these populations, in order to gain as much insight into this population to provide much needed recommendations for a tailored intervention for children with ASC who have experienced physical abuse.

This scoping review aimed to:

1. To Determine the efficacy of interventions in place for children with autism; determine successful components of the interventions.
2. Determine most improved areas of specified outcomes (behavioural, cognitive, and socio-emotional) while using current interventions in place.

3. Determine successful methodologies/basis of current interventions in place for children with ASC.

Main findings

All of the studies included in this review reported on at least two outcome areas and all reported improvements in at least one of the outcome areas, though comparisons of efficacy across studies is limited due to the clinical and methodological heterogeneity. Variability in outcome measurement tools, who reported on each outcome, and outcome definitions caused an inability to determine efficacy of interventions. Each of these points will be discussed in this section.

There were 35 different outcome measurement tools used for the studies in this review. While some studies had cross reporting with different individuals reporting on the same measure, seven studies reported on an outcome measurement tool with different individuals reporting. For example, Harris and Williams (2017), Holm et al. (2014), and Rosenblatt et al. (2011) included the Aberrant Behavior Checklist. However, for Harris and Williams (2014) teachers reported on this measure, for Holm et al. (2014) parents reported on this measure and for Rosenblatt et al. (2011) children reported on this measure. In another example, The Social Responsiveness Scale was used in three studies. However, Beeger et al. (2015) included only teachers reporting on this measure, while Luxford et al. (2017) and Schohl et al. (2014) included teachers and parents. Additionally, three studies used the Childhood Autism Rating Scale, with

Kern et al. (2011) and Eikeseth et al. (2012) including only clinicians reports for this measure and Harris and Williams (2017) including only teacher reports. Though these studies used the same outcome measurement tool, the individuals reporting on them may each have different biases. For example, a teacher reporting on the Childhood Autism Rating Scale (CARS) will likely report differently than a clinician would. A teacher may be subject to proxy bias while reporting on this scale as they are closer to the participant than the clinician. Additionally, language bias may be present while having different individuals report on the same measure. Language bias often discusses ambiguity in the language of the measurement tool which can be interpreted by individuals in different ways (Zini & Banfi, 2018). While reporting on CARS a clinician might interpret a question in a different way than a teacher as a clinician would likely have an experienced background in ASC, whereas a teacher may not. Language bias may also occur while having a child report on a measure versus an adult. These issues relate to the reliability of a study and can make it difficult to replicate the intervention and subsequent intervention effects. As such, these findings suggest there is a need for more standardised reporting on measures which would allow for replicability of interventions.

The differences in outcome definitions also provided difficulty in assessing the efficacy of interventions. For example, multiple studies reported on cognitive outcomes defined by intelligence measures, whereas another study reported on cognitive outcomes defined by problem-solving or working memory measures. Differing from these definitions, this review considered cognitive outcomes as ASC severity, problem-solving, attention, and memory. Additionally, differences in the definitions of other outcome areas provided difficulty in assessing interventions as well. For example, one study reported on target behaviours which were determined by parents (i.e, finger licking, clapping, finger twisting, pinching, eye contact, verbalisations and naming of people or items; Holm et al, 2014). For this study, the target behaviours were explicitly defined as their primary behavioural outcome, yet they differed from other behavioural outcomes reported in other studies. Though, Holm et al. (2014) defined their target behaviours, the target behaviours defined were subjective and relevant to only the participants included in the study. Other studies defined their behavioural outcomes as adaptive behaviour or maladaptive behaviour, and as Holm et al. (2014) only defined their behavioural outcomes through the explanation of target behaviours, thus issues arise when determining which intervention was more effective in treating behavioural outcomes. The differences in outcome definitions can cause difficulty in replicating interventions as there may be confusion in interpreting results (Smith et al., 2015). As such, adopting standardised definitions with clearly defined outcomes would improve comparability across studies.

Study designs also differed as there were seven different study designs used for the studies in this review. Five studies used an RCT Beeger et al.,2015; DeVries et al., 2015; Borgi et al., 2016 Luxford et al., 2017; Schohl et al., 2014), with three of those using a wait-list controlled design (Borgi et al., 2016 Luxford et al., 2017; Schohl et al., 2014). A pre-test/post-test design was used for four studies (Bauminger, 2007; Harris & Williams, 2017; Scarpa & Reyes, 2011; Smith et al., 2010). A quasi-experimental design was used for five studies (Clarke et al., 2017; Eikeseth et al., 2012; Lanning et al., 2014; Vivanti et al., 2014; Zachor & Itzchak, 2010). A mixed-methods design was used for two studies (Drmic et al. 2017; Schweizer et al., 2020). One study used a single subject multiple baseline, multiple case design (Holm et al., 2014). Two studies used a within-subjects design (Kern et al., 2011; Rosenblatt et al., 2011). Though utilisation of different study designs is expected, assessing risk of bias for different designs is an obstacle. As discussed in the previous chapter, risk of bias is a consequential part in determining efficacy of an intervention as risk of bias may impact data. However, in line with the PRISMA guidelines for scoping reviews, no risk of bias assessment was completed for this review (Tricco et al., 2018). Future research exploring this topic area should consider undertaking a more rigorous review such as a systematic review, to ensure that risk of bias is properly assessed.

The gender of participants was another interesting finding in this review as 18 of the studies had a majority of male participants (Bauminger, 2007; Beeger et al.,2015; Borgi et al., 2016; Clarke et al., 2017; Drmic et al., 2017; Eikeseth et al., 2012; Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014; Luxford et al., 2017; Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Smith et al., 2010; Schohl et al., 2014; Schweizer et al., 2020; Vivanti et al., 2014; Zachor & Itzchak, 2010). Only one study did not report on gender (DeVries et al., 2015). As the majority of studies reported on predominately male populations, the impact of gender was not able to be assessed. Though, limitations relating to gender will be discussed in the limitations and implications section of this chapter.

Synthesis revealed that mode of delivery and type of session (group versus individual) did not influence the outcome areas. 15 of the studies which reported face-to-face delivery reported improvements in at least two outcome areas (Bauminger, 2007; Clarke et al., 2017; Eikeseth et al., 2012; Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014; Luxford et al., 2017; Rosenblatt et al., 2011;Scarpa & Reyes, 2011; Schohl et al., 2014;Smith et al., 2010; Schweizer et al., 2020; Vivanti et al., 2014; Zachor & Itzchak, 2010;). One study reported on a program which was installed on the participants laptop, this study reported improvements in all three outcome areas (DeVries et al., 2015). These findings demonstrate that face-to-face therapy is the most common mode of delivery and while these interventions showed improvements, other modes of delivery should be further explored.

There were 11 studies which also reported improvements in at least two outcome areas utilising group therapy (Bauminger, 2007; Clarke et al., 2017; Eikeseth et al., 2012; Harris & Williams, 2017; Lanning et al., 2014; Luxford et al., 2017;Rosenblatt et al., 2011; Scarpa & Reyes, 2011; Schohl et al., 2014; Vivanti et al., 2014; Zachor & Itzchak, 2010). While two of those studies reported on two comparison groups with one intervention involving group therapy and the other involving group or one-to-one sessions, both studies reported that both groups exhibited improvements in at least two areas (Vivanti et al., 2014; Zachor & Itzchak, 2010;). One intervention which was delivered through individual sessions reported improvements in two outcome areas as well. Research regarding group versus individual sessions for children with autism is scarce. Group and individual sessions are often offered as options in many types of interventions for this population (Lord et al., 2018). As this review found that both group and one-to-one sessions improved at least two outcome areas, future research should consider exploring the benefits and limitations of each type of session.

For all studies, there was a team of individuals involved in the intervention. The teams consisted of a combination of qualified individuals, which consisted of licensed therapists, psychologists, graduate students, undergraduate students, individuals who received special training or were certified in the intervention, special education teachers, or teaching assistants. This finding warrants further exploration as well as the studies did not specify exactly which role each individual had in the intervention. It is, therefore, difficult to determine whether improvements in outcome areas are associated with who delivered the intervention.

Where the interventions were held also did not influence outcome areas. Most of the studies were held at school (Bauminger, 2007; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Eikeseth et al., 2012; Zachor & Itzchak, 2010) and the second most involved equine assisted therapy which were all held at a riding centre (Borgi et al., 2016 Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014). Five studies did not discuss where the intervention was being held, though three of these studies reported in improvements in the two outcome areas assessed (Beeger et al.,2015; Schweizer et al., 2020; Rosenblatt et al., 2011); with two of these studies reporting in all three outcome areas assessed (DeVries et al., 2015; Schohl et al., 2014). One study which did not specify where the intervention was held, involved the intervention program being installed on the participants laptop, this study reported improvements in all three outcome areas (DeVries et al., 2015).Reporting on where interventions are held are an important consideration for replicability of the intervention. These findings suggest that future studies need to be more transparent in their reporting of interventions in order to assess efficacy.

There were nine different theories which formed the interventions reported on. There were 14 studies which reported on an overarching approach; five studies which used therapeutic riding or Animal Assisted Therapy, did not specific an underlying theory (Borgi et al., 2016; Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014). Two studies used an ABA based intervention for their treatment group (Eikeseth et al., 2012; Zachor & Itzchak, 2010). One used an ABA based technique for their intervention (Smith et al., 2010). Four studies reported using CBT (Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Scarpa & Reyes, 2011). One study used art therapy (Schweizer et al., 2020). One study used a theory of the mind intervention (Beeger et al., 2015). The remaining studies discussed multiple theoretical underpinnings for their interventions. One study used a social skills and relationship based intervention (Schohl et al., 2014). One study included novel movement-based complementary and alternative medicine approach (Rosenblatt et al., 2011). One study reported that their intervention was based on working memory and cognitive flexibility training (DeVries et al., 2015). Two of these studies included a comparison group which used an eclectic approach to their treatment (Eikeseth et al., 2012; Zachor & Itzchak, 2010). The most common theoretical basis for studies in this review include Animal Assisted Interventions (Borgi et al., 2016 Harris & Williams, 2017; Holm et al., 2014; Kern et al., 2011; Lanning et al., 2014) and CBT-based interventions (Bauminger, 2007; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Scarpa & Reyes, 2011). Interestingly, only three studies reported on ABA-based interventions (Eikeseth et al., 2012; Smith et al., 2010; Zachor & Itzchak, 2010), despite ABA-based approaches being reported as the most commonly used Early Intensive Behavioural Intervention (Roane et al., 2016; Lord et al., 2020). Though, all studies which utilised some form of Early Intensive Behavioural Therapy reported significant gains across groups, highlighting evidence that any form of Early Intensive Behavioural Therapy may be beneficial (Eikeseth et al., 2012; Smith et al., 2010; Vivanti et al., 2014; Zachor & Itzchak, 2010; Lord et al., 2020). Three different studies, with different theoretical underpinnings, reported improvements in all three outcome areas (Clarke et al., 2017; de Vries et al., 2015; Schol et al., 2014). While other theoretical approaches included improvements in a variety of different areas, though it is important to note that not all studies reported on all outcomes, causing difficulty in assessing which theoretical underpinning might be most beneficial. These findings suggest a greater need for exploration into the effectiveness of different theoretical approaches in all outcome areas. As well as a need to explore an updated evidence base on the prevalence of different types of interventions used for this population.

Of the studies included in this review, the findings are consistent that CBT-based interventions may help improve anxiety symptoms; with three of the five studies reporting on CBT-based interventions discussing improvements in anxiety (Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017) However, one of these studies only found improvements in socio-emotional areas and did not report statistic significant effects in behavioural areas (Drmic, 2017). CBT-based interventions are becoming more widely explored in children with ‘high-functioning’ ASC and have been found to have significant improvements in socio-emotional areas when reported on by parents, teachers, or clinicians (Wang et al.,2021). The findings in this review are consistent with previous research and suggest that further exploration into CBT-based interventions for all children with ASC should be considered. Though, it is important to note that the studies in the review reporting on CBT-based interventions were the only studies reporting on anxiety as a targeted outcome. However, one study included in this review which reported on a relationship-based intervention observed that social anxiety decreased amongst participants, though social anxiety was not a targeted outcome (Schohl et al., 2014). Evidence shows that CBT, or modified CBT, is one of the most common theoretical underpinnings in treating anxiety in those with ASC (Deli et al., 2018). Though, these findings suggest that other approaches may be beneficial as well. As, in this review, only CBT-based interventions targeted anxiety it is important for future research to widen their outcome basis as other types of interventions could improve areas that are not targeting specifically. Additionally, while considering anxiety or other socio-emotional issues, alternatives to CBT-based interventions should also be explored.

Limitations

The heterogeneity within the interventions (tools used to measure outcomes, who reported, outcome definitions etc.) limited efficacy reporting on individual interventions as well as the generalisations that could be made from this review. Additionally, it is important to note that, following the PRISMA guidelines for scoping reviews, this review did not assess risk of bias and so it is unknown whether biases may have affected the reported intervention effect.

Grey literature was also not searched because it is typically not peer reviewed leading to less rigorous research, it can contribute to search inefficiencies and a lack of search replication for future studies (Adam et al., 2016). This meant that some relevant research could have been missed, but the decision was taken not to search the grey literature to reduce these potential issues. Future research utilising grey literature should be transparent and address possible resultant biases.

As the criterion changed before the secondary screening to include only articles which reported on two outcome areas, the information on interventions for ASC may be limited. This review amended its criterion as certain studies focus primarily on one outcome; however, they used a tool which reported on multiple areas. For example, many interventions for ASC focus primarily on communication, to measure this the Vineland Adaptive Behaviour Scale is often used. The Vineland Adaptive Behavioural Scale also assess daily living skills, however as the intervention primarily targeted communication the techniques used for the intervention may not be relevant to the aims and overall outcomes assessed in this review. Additionally, communication and language were not outcome areas included in this review. A large number of interventions for ASC include communication as a primary outcome (Lord et al., 2020). As such, the studies included in this review were limited.

Implications for Future Research

The heterogeneity of studies used in this review raise significant concerns surrounding study development and reporting. Many studies in this review used up to four different individuals to report on outcomes used an array of different measures to measure the same construct across studies, thus presenting an apparent need for more standardised outcome measures. Additionally, outcome definitions for each study varied. As such, reported outcome definitions vary from study to study, creating difficulty in reporting on exact outcomes.

This review highlights some commonly used measures in assessing outcome areas associated with ASC. However, as multiple studies used the same measure to assess different outcome areas it is clear that there are discrepancies in how outcome areas are defined and how they should be measured. For example, in this review 14 studies assessed behavioural outcomes, however in those studies nine different measures were used to assess behaviour with four different individuals reporting on the outcome (parent, child, clinician, or teacher). Additionally, multiple studies used the same measure to assess different outcome areas. For instance, Schweizer et al. (2020) used the Behaviour Rating Inventory of Executive functioning to measure behavioural areas as well as emotion regulation, whereas DeVries et al. (2015) used this measure to assess far-transfer to daily life, while using two other measures to assess behavioural outcomes. Thus, it becomes difficult to evaluate which interventions may improve certain outcome areas. The implications and limitations of this notion will be further discussed in a separate chapter of this thesis.

Additionally, there were a number of theoretical underpinnings utilised. As discussed, therapies based in ABA are often considered the default for early intensive behavioural therapy program for children with ASC (Lord et al., 2018; D’agostino et al., 2023; Scheribman et al., 2015). Though literature often reflects the popularity of ABA, research into ASC is everchanging and there is a need for more current research into interventions for this population (Lord et al, 2018; Howlin, 2021). As such, there is a need to determine the prevalence of current interventions used for this population.

As each intervention consisted of a team of individuals, cost-effectiveness should be a large consideration for interventions for ASC. As many lower-income areas may not have the resources to fund programs, many children may not get the treatment they need. Additionally, most of the studies involved interventions which were delivered face to face. As there may be varying issues with other childcare obligations, parental obligations, transportation issues etc. it is important for research to explore other delivery methods which may be used for these interventions.

All interventions were done with a predominately male population. Although, this finding is unsurprising as there is about a 3:1 ratio of males to females with ASC, it does impede on the ability to generalise across genders (Loomes et al., 2017). This finding also raises an important implication regarding diagnostic criteria and who exactly interventions for ASC are for. Studies have suggested that females with ASC may have a different phenotype than males causing females to be less diagnosed or misdiagnosed (Hansey, 2015). As such, it is important to explore whether interventions for children with ASC address characteristics of both genders. This point will be further discussed within the implications and limitations chapter of this thesis.

This scoping review explored studies which discussed interventions for children with ASC. The findings show that there is a very apparent need for more research and standardised approaches and tools involved in interventions for children with ASC. Limitations and implications outlined in this chapter will be discussed further in the limitations and implications chapter of this thesis. The next chapter will provide a discussion of the evidence synthesis discussed in this chapter and the previous systematic review and narrative synthesis chapter.

4.8.1 Translating the Evidence of the Evidence Synthesis

The evidence synthesis was performed to assess the current state of evidence, assess therapeutic needs and best evidence and practice for improved outcomes for children who experienced physical abuse and children with ASC. The information gathered from this phase helped to inform the next phases of research, as well as highlight current therapeutic needs, relevant populations and potential psychological and behavioural outcomes in need of addressing within an intervention. Such mechanisms will now be clearly outlined with the illustration of a logic model, in aim of clearly depicting the various elements an intervention could contain.

As discussed in Chapter Three, logic models are used throughout healthcare domains, to aid transparency around the resources, models and evidence base informing intervention design, and clearly report on their translation to practice intervention strategies (Mills et al., 2019; Moore et al., 2015; Tournier et al., 2020). As this thesis aims to generate knowledge and insight that can inform potential targets for future tailored interventions for autistic children who have experienced abuse, a logic model will be utilised. Subsequently, knowledge, insight and implications identified from the findings of this phase will help to inform the intervention recommendations and subsequent logic model for this thesis. Overall, there were four core areas drawn from the evidence synthesis in relation to intervention design;

- Knowledge around current symptomology for both children with ASC and children who have experienced physical abuse,
- Insight into theoretical approaches and models associated with symptom reduction
- Identification of target populations in best supporting autistic children who have experienced abuse
- Insight into best intervention characteristics.

This Section will now outline these core areas, in line with the logic model, in order to fully demonstrate how the findings produced from the evidence synthesis can be translated into intervention design. The logic model contains five columns (four columns are labelled in Sections as A, B, C, D, respectively). Sections A, B, and C highlight the key resources that can inform the bases of an intervention. Section A highlights the inputs or needs that were generated from the knowledge in this phase. Section B highlights the possible theories or assumptions which can be used to inform a future intervention, these were created from the current evidence base. Section C illustrates the suggested target populations, generated from the inputs. Finally, section D outlines specific intervention characteristics or strategies that show promise.

Knowledge around current symptomology

First, the evidence synthesis generated knowledge that children who have experienced physical abuse experience externalising behaviours (e.g., aggression and hyperactivity), as well as anxiety symptoms, depressive symptoms, emotion regulation issues, and social anxiety (see Logic Model Section A). Additionally, the evidence synthesis revealed that children with ASC experience difficulties with executive functioning, social anxiety, anxiety symptoms, emotion regulation, self-injurious behaviours, maladaptive behaviours, daily living skills, and severity of ASC symptoms. Such findings highlight a clear need in relation to supporting children in reducing symptomology associated with both ASC and physical abuse. As such, symptomology of children with ASC and children who experienced physical abuse have been added to Section A.

These inputs highlighted a need for a tailored intervention for children with ASC who experienced physical abuse.

Insight into theoretical approaches and models

Next, theoretical underpinnings varied between studies and reviews, with each review reporting on a vast number of theories. For children who experienced physical abuse, interventions which incorporated a number of theoretical bases reported improved outcomes in all areas. For children with ASC, studies which reported on eclectic or incorporative theoretical bases also showed improvements in all outcome areas. However, these studies often did not report on feasibility or meaningfulness. Therefore, it is difficult to assess whether there are practical issues related to these approaches, or whether participants enjoyed them. However, as eclectic and integrative theoretical basis showed improved outcome areas, different theoretical underpinnings will be considered for the logic model, including behavioural therapy, attachment theory, emotional regulation, experiential education, trauma-informed care and The Good Lives Model (Section B).

One such theoretical base which has been considered a possible theory on the logic model is CBT (Section B). Both reviews included studies which used CBT as a basis for their interventions. CBT was found to have improved outcomes for anxiety in children with ASC, as well as improving behavioural and socio-emotional outcomes (Bauminger, 2007; Clarke et al., 2017; Drmic et al., 2017; Luxford et al., 2017; Scarpa & Reyes, 2011). Additionally, the systematic review narrative synthesis found CBT based interventions improved outcomes for behavioural and cognitive areas in children who experienced physical abuse (Barker & Place, 2005; Feather & Ronan, 2009; Konanur et al., 2015; Lawson & Hight, 2015; Norton et al., 2017). Though, it is important to note that TF-CBT was commonly used for children who experienced physical abuse, as this approach can incorporate other components than traditional CBT. Studies which used a CBT intervention for children with ASC also reported on meaningfulness and feasibility of the intervention which are two important factors to consider. The studies reported positive reports for meaningfulness and that the intervention was feasible. As such, these findings suggest a CBT basis may be beneficial in treating children with ASC who have experienced physical abuse.

In addition to CBT, face-to-face behavioural therapy has been identified as a potential output for children with ASC who experience physical abuse (Section D). Often, children with ASC experience maladaptive behaviours which have been linked to negative emotions and poor emotional regulation (Samson et al., 2015). As such, utilising tools such as functional communication training, social stories, and modelling could help to improve emotion regulation, anxiety, and depressive symptoms; in turn, improving maladaptive behaviours.

Identification of target audience

In addition to the above, the evidence synthesis findings highlight caregivers[2] as a target population (Section C). Both reviews reported improved outcomes in studies utilising parent training or parent education programs which may be an important factor to consider for the logic model as well as future interventions. Sessions with caregivers were found to improve all outcome areas in both reviews, with the scoping review highlighting the importance of parent education programs (Section A). As such, parent workshops have been identified as a potential output (Section D). Subsequently, practitioner guided parent-child sessions and practitioner guided goal-setting sessions for children and caregivers have been added as a potential output as well (Section D).

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[2] As the term ‘caregivers’ covers a broad range of individuals who care for children, ‘caregivers’ refers to parents, guardians, and caregivers for the logic model.

Furthermore, teacher and school staff have been identified as a target population (Section C). The evidence synthesis revealed that teacher involvement in interventions provided consistency for children, which allowed them to utilise techniques outside of targeted sessions (Section A). As teacher and school staff education is an important component, this will be considered for the logic model through targeted workshops (Section D). These workshops would then provide school staff with the knowledge and understanding of symptomatology of children with ASC who experienced physical abuse (Section E).

Insight into best intervention characteristics

The evidence synthesis found that face-to-face interventions are the most common mode of delivery for interventions for both populations, as such face-to-face interventions have been included as an output for the logic model (Section D). As findings from the current evidence base suggests that this mode of delivery improves outcomes for these populations, face-to-face sessions will be considered for the logic model. However, it is important for future research to consider other modes of delivery as well. While dealing with childhood populations, incorporating face-to-face interventions may limit who has access to them. Often, parents or caregivers will need to be involved as transportation may be a requirement. Additionally, as mentioned in the systematic review narrative synthesis, since the SARS-CoV-2 virus, telemedicine use has increased (Sammons et al., 2021; Nocker & Toolan, 2021). As research shows telehealth interventions have increased in children with ASC as well as children who experienced physical abuse, it is important to assess the feasibility of these interventions as well as the experiences of those utilising them (Lamash et al., 2023). These assessments can then help to determine if they are viable options for children with ASC who experienced physical abuse.

In addition to face-to-face sessions, the evidence synthesis found that group sessions may be beneficial in improving outcomes, in particular socio-emotional outcomes. Group sessions involving other children with ASC have been found to improve social skills as well as social cognition, social functioning, loneliness, low mood, and anxiety symptoms (Spain et al., 2018). As such, intermittent group sessions have been included as a potential output for the logic model (Section D).

Another important finding surrounds child verbal skills levels (Section A). Only one study specified a specific modification for non-verbal children involved in the study (Kerns et al., 2015). All other studies either did not include non-verbal children (Baumiger, 2007; Beeger et al., 2015; Borgi et al., 2016; Drmic et al., 2017; Holm et al., 2014; Luxford et al., 2017; Scarpa & Reyes, 2011; Schohl et al., 2014), or did not mention verbal skills of participants (Clarke et al., 2017; Lanning et al., 2014; Eikeseth et al., 2012; Rosenblatt et al., 2011; Schwiezer et al., 2020; Smith et al,. 2010; Vivanti et al., 2014). As such, an input of modifications which can be made for children who have impacted verbal skills has been added to the logic model (Section A), as social and communication challenges are a diagnostic criterion for ASC (American Psychiatric Association, 2013). To help facilitate verbal skills, one-to-one speech and language therapy should be incorporated, as well as specific tailoring to child's verbal skills (Section D).

See Table 4.8 on page 154 for the phase informed information incorporated into the logic model.

Table 4. 8

Phase Informed Components of Logic Model

Phase one	**Inputs: 'needs' that this thesis will generate or identify (Section A)**	**Possible Theories and Assumptions (Section B)**	**Suggested Target populations (Section C)**	**Potential Outputs relevant for Intervention Design (Section D)**
	Knowledge that: Children who experienced physical abuse struggle with the following symptomology: -Externalising behaviours (i.e. aggressive behaviours, self-injurious, aggression towards others) -Anxiety symptoms -Social anxiety -Emotion regulation -Depressive symptoms Children with ASC who experience abuse struggle with the following symptomology: -Executive functioning -Social anxiety -Anxiety symptoms -Emotion regulation -Self-injurious behaviours -Maladaptive behaviours -Daily living skills -Tailoring can be made for non-verbal or those with impacted verbal skills -Caregivers facilitate improvements in the above areas -Teachers and school staff(including teachers and teaching assistants) facilitate improvements in the above areas when involved in interventions	-Attachment Theory -Emotional Regulation -Behavioural theory -Experiential Education -Trauma-Informed care -Cognitive-Behavioural Therapy -Behavioural therapy -The Good Lives Model	- Children with ASC who experienced physical abuse -Parents of children who experienced physical abuse and children with ASC -Teachers and school staff of children who experienced physical abuse and children with ASC -Clinicians who assess abuse within children with ASC	-Individual face-to-face one-to-one sessions with child -Specific tailoring to child's verbal skill level - Face-to-face Individual Speech and language therapy - Face-to-face Individual Behavioural therapy -Intermittent group sessions -Practitioner guided goal-setting with child and caregiver -Practitioner guided Parent-child sessions -Caregiver Workshops -Teacher and school staff workshops

This chapter aimed to provide insight into interventions for children with ASC who have experienced physical abuse. As research surrounding this topic is scarce, a systematic review and narrative synthesis on interventions for children who have experienced physical abuse and a scoping review for children with ASC were performed. Both reviews provided a comprehensive overview of the literature surrounding interventions for children with physical abuse and interventions for children with ASC. Both reviews highlighted a need for future research to explore these topics more thoroughly and adopt standardised designs and outcome measures. Additionally, these reviews provided important considerations to be made discussing future interventions for children with ASC who have experienced physical abuse. The next chapter will discuss two quantitative surveys with data collected from adults with ASC and parents, guardians, and caregivers of children with ASC.

Chapter Five: Quantitative Phase

A Quantitative Exploration of Adverse Childhood Experiences and their Associated Characteristics In ASC

5.1 Introduction

5.1.1 Autism spectrum Condition and Adverse childhood Events

As discussed in Chapter One, Autism Spectrum Condition (ASC) is categorised as a pervasive developmental disorder which varies from person to person, though it is often identified and diagnosed in childhood by observing behaviours (Lord et al., 2018). Recently, research has found that those with ASC are more likely to experience Adverse Childhood Experiences, described as traumatic experiences in childhood which negatively affect long-term health outcomes and well-being (Berg et al., 2016; Boullier & Blair, 2018; Felitti et al., 1998; Hoover, 2015; Hoover & Kaufman, 2018). ACEs include a multitude of events such as exposure to domestic violence, any form of child abuse and community violence such as shootings in neighbourhoods or gang-related violence (Berg, et al., 2016; Boullier & Blair, 2018; Felitti, et al., 1998). Exposure to ACEs have been linked to a plethora of issues occurring in adulthood, including physical issues such as obesity, increased risk of drug use, and psychological issues such as, depression, anxiety, and eating disorders (Boullier & Blair, 2018; Felitti et al., 1998; Garrido et al., 2018; Kalmakis & Chandler, 2014). Whilst just under 50% of the UK population report experiencing at least one ACE, 9% to 14% report experiencing four or more (Bellis et al., 2014; Boullier & Blair, 2018). Exposure of one to three ACEs puts an individual at risk for worse health outcomes than those who have not experienced any, and exposure to four or more ACEs puts an individual at risk for much poorer health outcomes (Bellis et al., 2014; Boullier & Blair, 2018). Exposure to four or more ACEs has been found to be associated with increased risk of chronic disease, such as type 2 diabetes and respiratory or heart disease, and increased risk of chronic psychological issues, such as depression or anxiety (Craner et al., 2022). As ACE exposure is common and poses significant physical and mental health risks, it is important to understand the prevalence and effects they may have in all populations.

Generally, ACEs have been observed retrospectively in the neurotypical adult population; however, more recently findings suggest that those with ASC are more likely to be exposed to ACEs than those without any developmental disorders with risk of exposure to four or more ACEs in those with ASC being twice as high as their neurotypical peers (Berg et al., 2016; Hoover, 2015; Hoover & Kaufman, 2018). In particular, those with ASC were found to be more likely to experience forms of neglect or abuse in the UK (Dodds, 2020). Severity of ASC was also associated with higher cumulative ACEs; as such, individuals whose lives are more impacted by ASC tend to have a greatly increased risk of experiencing ACEs (Berg et al., 2016). Reasons for this association have been hypothesized as being due to the emotional and social deficits, which are often seen in those with ASC (Hoover, 2015; Kerns et al., 2015; Mehtar & Mukkades, 2010). It can be difficult for individuals with ASC to convey inner thoughts and regulate emotions, which can cause maladaptive behaviours (Mehtar & Mukkades, 2010). Social deficits, and cognitive and behavioural issues associated with ASC can make it difficult for parents or caregivers to notice warning signs of potential abuse or ACEs (Berg, et al., 2016; Mehtar & Mukkades, 2010). Additionally, children with ASC are often more dependent on others thus putting them at a higher risk for maltreatment than adults (Kerns et al., 2015). Though exposure to ACEs in those with ASC is high, research into identifying and gaining a deeper understanding of ACEs in this population is scarce; this is consequential as identification and understanding are imperative for proper care and treatment.

As research into the impact of traumatic events, such as ACEs, on ASC is limited, there is a lack of appropriate treatment available (Berg et al., 2016; Kerns et al., 2015; Peterson et al., 2019; Robinson, 2018; Stack & Lcuyshyn, 2019). Lack of appropriate treatment can lead to worsening mental and physical health, and overall negative well-being (Berg et al., 2016; Kerns et al., 2015; Peterson et al., 2019; Robinson, 2018; Stack & Lcuyshyn, 2019). As ACEs and their associated impacts are under researched in this population, it is difficult to determine the exact therapeutic needs of individuals with ASC who have been exposed to ACEs. However, due to the negative factors associated with ACEs, the vulnerability of individuals with ASC, and the lack of available interventions, more research is needed in this area. Thus, such implications warrant further exploration across varied populations. This study aims to determine the prevalence of ACEs and abuse in those with ASC, determine the demographics associated with abuse in those with ASC and determine the impact on individual variables of abuse in those with ASC.

The current study objective was to determine the prevalence of abuse, Adverse Childhood Experiences and other related issues within the autistic population across two studies. Study 1a was conducted with adults with ASC and Study 1b was conducted with parents, guardians, and caregivers of children with ASC. For Study 1a there were several hypotheses. First, those who experience abuse will experience more ACEs than those who did not experience abuse. Next, there will be a difference in behavioural characteristics for those that did experience abuse compared to those who did not experience abuse, with those who experienced abuse having more negative behaviours. Third, there will be a difference in behavioural characteristics for those who experience more ACEs. Fourth, those who have impacted verbal skills will be more likely to experience abuse and more likely to experience more ACEs than those who do not have impacted skills. Sixth, those who have impacted daily living skills will be more likely to experience abuse and more likely to experience more ACEs than those who do not have impacted daily living skills. Seventh, those who are more impacted will be more likely to experience reoccurrence of abuse, than those who are less impacted. Lastly, there will be a difference in behavioural characteristics of those who experience a reoccurrence of abuse compared to those who do not experience a reoccurrence of abuse, with those who experience abuse being more likely to experience a reoccurrence of abuse.

For Study 1b there were four hypotheses. First, those who have more impacted verbal and daily living skills will be more likely to experience abuse. Second, there will be more negative behavioural characteristics reported for those who experienced abuse versus those who did not. Third, there will be a difference between the number of ACEs reported for those who experienced abuse and those who did not. Fourth, there will be an association between ACEs and behavioural characteristics.

5.2. Investigating Adverse Childhood Experiences and Associated Characteristics in the ASC community

5.2.1 Methods

Prospective power analyses based on a medium effect size and an alpha level of .05 (Crompton et al., 2020). G*Power suggested a minimum sample size of

148 participants for a .80 power (Faul, et al., 2007) for each study. However, despite frequent advertisement through social media, charities, and online forums (and the survey being open for nearly two years), neither study achieved the minimum participants suggested based on these analyses.

Participants for Study 1a. In Study 1a 78 adults with a diagnosis of Autism Spectrum Condition (54 females, eight males, 14 non-binary, and one ‘other’ gender identity) responded to the survey. Participant age ranged from 18 to 75 years old (*mean age* = 29.7, *SD*=13.1).

Whilst 17 participants were diagnosed with ASC level 1 (discussed in Chapter One), and 4 participants were diagnosed with ASC level 2, 57 participants did not know their ASC level. Of the sample, over half reported that their verbal (55.1%) and daily living (59.0%) skills were not impacted, with 44.9% reporting that their verbal skills, and 39.7% reporting that their daily living skills, were somewhat impacted (see Table 5.1). Only one participant reported that their daily living skills were fully impacted.

Table 5. 1

Verbal Skills and Frequency

	Verbal skills	**Daily living skills**
Not Impacted	43	46
Somewhat Impacted	35	31
Fully Impacted	0	1

Participants for Study 1b. For Study 1b only 47 participants responded to the survey despite frequent advertisement and the survey staying open for almost two years. The recruitment process was the same as study 1a (i.e. through social media, charities, and online forums). The sample consisted of parents, guardians, and caregivers of children with a diagnosis of autism spectrum condition (referred to in the DSM as autism spectrum disorder). Parents reported on 24 males, 21 females, and 2 non-binary children that were aged three years olds to 28 years old (*M* = 12.2, *SD* = 5.07). Data from the participant whose child was 28 years old was still included as parents were asked to answer questions on their child between the ages of 0-18 years old.

Participants reported that three children were diagnosed with ASC level 1, three children were diagnosed with ASC level 2, and 41 participants did not know the child's ASC level. Most of the parents reported that their child's verbal skills were either not impacted (59.6%) or were somewhat impacted (31.9%). Only four participants reported that their child had fully impacted verbal skills (8.51%). Over half of the participants reported that their child had somewhat impacted daily living skills (53.2%), 19.2% reported that their child had fully impacted daily living skills and 27.7% reported that their child's daily living skills were not impacted (see Table 5.2).

Table 5. 2

Counts of Verbal Skills and Daily Living Skills

	Verbal skills	**Daily living skills**
Not Impacted	28	13
Somewhat Impacted	15	25
Fully Impacted	4	9

Design

This study used a cross-sectional design using data from an online survey with four variables (see Tables 5.3 and 5.4).

Table 5. 3

The Variables Utilised Within Tests of Association and the Inferential Statistics Conducted

Inferential Test	**Variable$_1$**	**Variable$_2$**
Pearson's product-moment correlation	ACE	Behavioural characteristics
Chi-square test of independence	Verbal skills	Abuse
Chi-square test of independence	Daily living skills	Abuse
Chi-square test of independence	Verbal skills	Reoccurrence of Abuse
Chi-square test of independence	Daily living skills	Reoccurrence of Abuse

Note. These inferential tests were not conducted for Study 1b due to such small numbers reporting abuse

Table 5. 4

The Variables Utilised Within Tests of Difference and the Inferential Statistics Conducted

Inferential Test	IV	DV
Independent t-test	Abuse	Behavioural Characteristics
Independent t-test	Skills	ACEs
Independent t-test	Reoccurrence of Abuse	Behavioural Characteristics

Note. These inferential tests were not conducted for Study 1b due to such small numbers reporting abuse.

Materials

Both online surveys were created through onlinesurveys.com. The surveys included information about demographics (including age, gender, and race) and about ASC (including the level – 1, 2 or 3 – and whether verbal and daily living skills were impacted - fully impacted, somewhat impacted, or not impacted).

The Assessment Checklist for Children-Short Form (ACC-SF; Tarren-Sweeney, 2013) was used to assess behavioural characteristics. The ACC-SF is a 20-item report, designed for screening trauma and attachment-related difficulties. Whilst, this checklist is primarily used to assess the neurotypical population, it was determined that this would be appropriate for use for this study as this study aimed to explore these specific behavioural characteristics in children with ASC. Permission was given by the author for use in this thesis (see Appendix A for limited licensing agreement). An example question is that parents/caregivers were asked to describe if a behaviour, such as “She bites herself”, did not occur, occurred once, or occurred more than once in the past four to six months (coded as 0, 1, 2, respectively). The survey questions were adapted for study 1a to include second person language for past recounts of experiences in childhood (see Appendix B for illustration of the ACC-SF). For example, the adults with ASC were asked which option “best describes you in your childhood.” Instead of the original wording of “your child”. Scores were summed for each construct separately (i.e. sexual behaviour, indiscriminate, pseudomature, anxious/distrustful, food maintenance, non-reciprocal, abnormal pain and self-injurious behaviour) and an overall score was created for the entire checklist. Higher scores indicated more behaviours associated with the construct. The internal reliability of the form was alpha= 0.91 (Tarren-Sweeney, 2014).

The Adverse Childhood Experience questionnaire assessed ACEs across 10 items (See appendix C; Felitti, et al., 1998). The Cronbach's alpha reliability score for the ACE checklist was .70 (Olah et al., 2023). The questions asked about childhood experiences and included questions regarding homelife, parents, maltreatment, abuse, or witness of violence or abuse. The questions are answered as a 'yes' or 'no', each 'yes' is one point and the score is then added up at the end. Questions were adapted in Study 1b to reflect second third person perspective. A high score indicates more ACEs experienced (See Appendix C)

Participants who reported that they (or their child for Study 1b) had experienced abuse were asked questions regarding the demographics of the perpetrators of their abuse, where abuse took place, and what treatment (if any) they had received for this abuse.

All participants were asked about treatments they (or their child; Study 1b) had undergone for ASC more generally (e.g., was treatment ever recommended for your [child's; Study 1b] ASC? Was treatment ever completed?).

For Study 1a, participants who reported that they had experienced a reoccurrence of abuse were asked questions regarding the demographics of the perpetrators of their abuse, where abuse took place, and what treatment (if any) they had received for this abuse (See Appendix D for questions from Study 1a and Appendix E for questions from Study 1b; see Appendix F for information sheet for Study 1a, Appendix G for information sheet for study 1b, Appendix H for consent form for Study 1a, Appendix I for consent form for Study 1b, Appendix J for the debrief from for Study 1a, and Appendix K for the debrief form for Study 1b).

Procedure

First, ethical approval was given by the University of Gloucestershire Ethics board (see appendix L). Participants were then recruited via an advert on social media, through charities, and organisations and directed to the online survey. An information sheet described the nature of the survey and the ethical rights of participants. Those wishing to participate then completed the consent form. Participants were then asked to answer 19 questions (first, demographic questions, then the ACC-SF, then the ACE checklist). Next participants were asked if they had experienced abuse (those that had answered 19 questions about this abuse). Participants were then asked if they had experienced a reoccurrence of abuse (those that had answered 11 questions about this reoccurrence). Finally, participants were asked whether they had received treatment for their abuse (and the details around this treatment if they had) and for their ASC more generally (and the details around this if they had). After completing the survey participants were thanked, asked to provide a unique identifier and debriefed.

5.3 Results for Study 1a

Abuse

Over half of the sample (55.1%; 43 participants) reported having experienced abuse in childhood. Thirty-one had experienced physical abuse, 40 experienced emotional abuse, 17 experienced sexual abuse, 21 experienced neglect, and 13 experienced maltreatment. However, most participants (39) reported having experienced multiple types of abuse. See Table 5.5 on page 160 for a full summary of frequency of abuse types experienced by participants).

Table 5. 5

The Overall Frequency of Abuse Type Experienced by Participants, and the Frequencies of Abuse Type Based on the Reported Impacted the Verbal and Daily Living Skills

Abuse type	**Frequency**	**Verbal skills**			**Daily living skills**	
		Not Impacted	Somewhat Impacted	Not Impacted	Somewhat Impacted	Fully Impacted
Emotional	3	2	1	2	1	0
Emotional, Neglect	5	2	3	2	3	0
Emotional, Neglect, Maltreatment	1	0	1	0	1	0
Emotional, Sexual	1	0	1	1	0	0
Emotional, Sexual, Neglect	1	1	0	0	1	0
Physical, Emotional	4	1	3	1	3	0
Physical, Emotional, Maltreatment	2	0	2	0	2	0
Physical, Emotional, Neglect	4	2	2	2	2	0
Physical, Emotional, Neglect, Maltreatment	7	3	4	4	2	1
Physical, Emotional, Sexual	7	3	4	4	3	0
Physical, Emotional, Sexual, Maltreatment	2	2	0	2	0	0
Physical, Emotional, Sexual, Neglect	2	0	2	0	2	0
Physical, Emotional, Sexual, Neglect, Maltreatment	1	0	1	1	0	0
Physical, sexual	2	0	2	1	1	0
Sexual	1	0	1	1	0	0
Total	43	16	27	21	21	1

After confirming that all parametric assumptions were met (see Appendix M), an independent measures t-test revealed that those who experienced abuse reported significantly more adverse childhood experiences compared to those who did not experience abuse, $t(76) = 9.29$, $p < .001$, $d = 2.114$ (see Appendix N).

Abuse and behavioural characteristics

Across all the behavioural characteristics assessed, those who experienced abuse displayed significantly more negative behaviours than those who did not experience abuse (see Table 5.6). Note that, for the sexual behaviour, indiscriminate, and food maintenance constructs homogeneity of variances and normality was violated (see Appendix O) so the Welch tests were reported. Additionally, there was missing data for six participants. These participants were included in the final data as the missing data did not impact analysis.

There was a small effect size for the construct of sexual behaviour indicating that the differences in those who experienced abuse and those who did not were relatively subtle and may not have had a large impact. For non-reciprocal, indiscriminate, pseudomature, abnormal pain, and self-injury there was a medium effect size. Food maintenance and anxious/distrustful constructs had a large effect size indicating that the differences between these groups was substantial and likely to have a significant practical impact. For descriptive bar plots on these results see Appendix P. See Table 5.6 on page 163 for results of the independent t-tests.

Table 5. 6

Independent Samples t-Test Abuse and behavioural characteristics

	Test	Statistic	df	p	Mean		SD		Cohen's d
					Abuse	No abuse	Abuse	No abuse	
Food maintenance	Student	-4.49	76.00	< .001	3.9	1.5	2.7	1.7	-1.023
	Welch	-4.70	72.13	< .001					-1.045
Anxious/distrustful	Student	-4.43	76.00	< .001	8.0	5.2	2.9	2.5	-1.008
	Welch	-4.49	75.66	< .001					-1.015
Non-reciprocal	Student	-3.46	76.00	< .001	5.3	3.4	2.3	2.5	-0.787
	Welch	-3.49	75.08	< .001					-0.791
Indiscriminate	Student	-3.36	76.00	0.001	3.9	2.4	2.3	1.5	-0.766
	Welch	-3.51	72.77	< .001					-0.782
Pseudomature	Student	-3.03	76.00	0.003	6.4	4.6	2.4	2.7	-0.690
	Welch	-3.01	70.10	0.004					-0.687
Self-injury	Student	-2.45	76.00	0.017	3.0	1.9	2.2	1.8	-0.558
	Welch	-2.50	75.94	0.015					-0.563
Abnormal pain	Student	-2.31	76.00	0.024	3.8	2.7	2.4	1.8	-0.526
	Welch	-2.38	75.50	0.020					-0.534
Sexual behaviour	Student	-2.01	76.00	0.048	1.3	0.5	2.1	1.2	-0.457
	Welch	-2.12	68.57	0.038					-0.469
Insecure	Student	-2.00	76.00	0.049	7.5	6.4	2.5	2.3	-0.455
	Welch	-2.02	75.15	0.047					-0.457

Importantly, the number of adverse childhood experiences were significantly positively correlated with all of the behavioural characteristics. Sexual behaviour, pseudomaturity, non-reciprocal, indiscriminate, insecure, anxious/distrustful, and self-injury constructs had weak positive correlations, whereas food maintenance construct was moderately correlated (See Table 5.7).

Table 5. 7

Correlations for ACE and behavioural characteristics

	Pearsons r	P value
Food maintenance	0.597	<.001
Non-reciprocal	0.403	< .001
Anxious/distrustful	0.387	0.072
Indiscriminate	0.382	< .001
Pseudomature	0.373	< .001
Self-injury	0.285	.011
Sexual behaviour	0.251	.027
Insecure	0.215	0.059
Abnormal pain	0.205	.011

Skills and abuse

To examine the association between verbal skills (not impacted, somewhat impacted, or fully impacted) and adults with ASC who did or did not experience abuse, a chi-square test of independence was conducted. The results indicated that those who had somewhat impacted verbal skills were the most likely to experience abuse X^2 (1, N = 78) =12.4, p < .001, V = .399.

A chi-square test of independence was performed to determine the association between daily living skills and the prevalence of abuse. Whilst initially the planned analysis involved all three levels of daily living skills (not impacted, somewhat impacted, or fully impacted), there was only a single participant that reported these skills to be fully impacted, which would have violated the need for a cell count to be at least 5 (interpretation was not changed- see Appendix Q). As such, the chi-square test was conducted with only the not impacted and somewhat impacted participants. The results indicated that those that had somewhat impacted skills were more likely to experience abuse, X^2 (1, N= 77) =12.44, p <.001, V= .399.

To further explore the data, an independent t-test was conducted to test whether participants who reported impacted verbal skills had higher rates of exposure to ACEs compared to those with less impacted skills (as both the normality and homogeneity of variance assumptions were violated, the Welch's t-test is reported; See Appendix R). The results indicated that those who had somewhat impacted verbal skills (M = 4.71, SD = 2.18) had higher exposure to ACEs than those who did not have impacted verbal skills (M=3.44, SD=2.94), t(75.4) = 2.13, p = .036, d=.49 (see Figure 4).

Figure 4

A bar chart showing the total exposure to ACEs of those who reported their verbal skills were not impacted and those who reported somewhat impacted. The error bars represent the standard error.

An independent t-test was conducted to test whether participants who reported impacted daily living skills had higher rates of exposure to ACEs compared to those with less impacted skills (whilst the assumption of homogeneity of variance was met, and skewness was within the boundary conditions of ±2.58, kurtosis violated the assumption of normality- tests were performed without the outlier to further investigate the data reported above). The results of the t-test indicated that those who had somewhat impacted daily living skills (*M*=4.13, *SD*= 2.57) reported higher exposure to ACEs those who were not impacted (*M*=3.83, *SD*=2.71), *t(*75)= 0.49*, p*=.625, *d*= .11.

Location and abuse

Whilst not the main focus of this survey, exploratory analyses were conducted to identify whether there were any other risk factors for abuse within the data. First, descriptive statistics were analysed to establish whether there were some locations where abuse was more prevalent. Whilst most participants reported multiple forms of abuse and multiple locations, abuse occurred most often at the home of the person experiencing the abuse (N=38), their school (N=17) or within the home of the perpetrator (N=14; see Table 5.8 on page 166 for a full summary of frequency of location of abuse). One person reported that the abuse occurred at a recreational centre and one person reported that the abuse occurred at a residential care centre. Six reported that it occurred at other locations at a supermarket, at a local park, and at a workplace.

Table 5. 8

Frequencies for Abuse type and Abuse location

Abuse type	Frequency	Abuse Location	Frequency
Emotional	3	Home of perpetrator	1
Emotional, Neglect	5	Home of victim	13
Emotional, Neglect, Maltreatment	1	Home of victim, At residential care centre, Home of perpetrator	1
Emotional, Sexual	1	Home of victim, Home of perpetrator	7
Emotional, Sexual, Neglect	1	Home of victim, Home of perpetrator, Other	1
Physical, Emotional	4	Home of victim, Home of perpetrator, Recreational centre	1
Physical, Emotional, Maltreatment	2	Home of victim, Other	1
Physical, Emotional, Neglect	4	Other	1
Physical, Emotional, Neglect, Maltreatment	7	School	2
Physical, Emotional, Sexual	7	School, Home of victim	9
Physical, Emotional, Sexual, Maltreatment	2	School, Home of victim, Home of perpetrator	3
Physical, Emotional, Sexual, Neglect	2	School, Home of victim, Other	2
Physical, Emotional, Sexual, Neglect, Maltreatment	1	School, Other	1
Physical, Sexual	2		
Sexual	1		

Perpetrators

Descriptive statistics were explored to identify characteristics about the perpetrators of the abuse. Whilst most participants reported the perpetrator as being male (21 participants). Most abuse was reportedly perpetrated a parent, guardian or caregiver (21). The next most reported perpetrator was a family member other than parent or extended family member. Four participants reported that friends and peers at school perpetrated. One participant reported that a friend was the perpetrator. One reported that the perpetrator was father of a child they were babysitting for as well as friends of their father. One participant reported that their neighbour was the perpetrator. One participant reported that friends of an extended relative was the perpetrator. One participant reported that support staff at school were perpetrators. One participant reported that they did not know the perpetrator. One person reported that a significant other was the perpetrator. Two participants reported that family friends were the perpetrator. See Table 5.9 for perpetrator characteristics.

Table 5. 9

Perpetrator Characteristics

Who perpetrated	**Frequency**	**Race**	**Frequency**	**Gender**	**Frequency**
Grandparent, Sibling, Other	1	Asian/Asian American/Asian British	2	Male	19
Other	4	Caucasian	37	Female	21
Parent/Guardian/Caregiver	11	Latino/Latina/Latinx	1	Other gender identity	2
Parent/Guardian/Caregiver, Other	6	Mixed/Multiple Races	2		
Parent/Guardian/Caregiver, Other extended relative	1	Prefer not to say	1		
Parent/Guardian/Caregiver, Partner of parent/guardian/caregiver	3				
Parent/Guardian/Caregiver, Sibling	6				
Parent/Guardian/Caregiver, Sibling, Partner of parent/guardian/caregiver	1				
Parent/Guardian/Caregiver, Sibling, Teacher, Other	1				
Parent/Guardian/Caregiver, Sibling, Teacher, Other extended relative, Other	1				
Parent/Guardian/Caregiver, Teacher	1				
Parent/Guardian/Caregiver, Teacher, Other	2				
Partner of parent/guardian/caregiver	1				
Sibling	1				
Teacher, Other	2				

Reoccurring abuse

There were 31 participants who reported that further abuse occurred after the initial abuse had stopped. Participants mostly reported experiencing a reoccurrence of emotional abuse (29). Participants reported a reoccurrence of physical abuse as the next most reported (19). Participants then reported neglect (11), sexual abuse (10), and maltreatment (8). See Table 5.10 for a full frequency count of reoccurring abuse type.

Table 5. 10

Reoccurrence of Abuse Type

Abuse type reoccurrence	**Frequency**
Emotional	7
Emotional, Neglect	1
Emotional, Neglect, Maltreatment	2
Emotional, Sexual, Neglect	1
Physical, Emotional	4
Physical, Emotional, Maltreatment	1
Physical, Emotional, Neglect	2
Physical, Emotional, Neglect, Maltreatment	4
Physical, Emotional, Sexual	6
Physical, Emotional, Sexual, Neglect, Maltreatment	1
Physical, Sexual	1
Sexual	1
Total	31

Reoccurrence of abuse and verbal skills

A chi-square test of independence was performed testing the association between reoccurrence of abuse and verbal skills. There was a very small effect size for association between verbal skills and reoccurrence of abuse, X^2 (1, N= 43) =.107, p = .744, V= .05. This suggests that reoccurrence of abuse is not associated with verbal skills.

Reoccurrence of abuse and daily living skills

To test the association between reoccurrence of abuse and daily living skills a chi-square test of independence was performed. However, no significant association was found, X^2 (2, N= 43) =2.29, *p* = .318, *V*= .231.

Prevalence of where the abuse occurred

The home of the person experiencing the abuse was the most commonly reported for where the abuse occurred (N=25). Ten participants reported that the home of the perpetrator was where they experienced abuse. Nine participants reported that they experienced abuse at school. One person reported they experienced abuse at a residential care centre. One person reported they experienced abuse at a recreational centre. One person reported that they experienced abuse at a park.

Reoccurring abuse and behavioural characteristics

To assess whether those who experienced reoccurrence of abuse displayed more negative behavioural characteristics (as measured by the constructs on the adapted ACC-SF) compared to those that did not experience abuse, independent t-tests were conducted. The assumption of homogeneity of variances was met for each construct (see Appendix S). However, screening on skewness and kurtosis indicated violations to normality for sexual behaviour and insecure constructs.

Independent t-tests investigated the reoccurrence of abuse and scores from the categories on the adapted ACC-SF, but there were no significant differences between the behavioural characteristics for those who experienced a reoccurrence of abuse and those that did not. In addition, the effect sizes were very small for most of the constructs and medium for insecure and non-reciprocal (See Table 5.11).

Table 5. 11

Independent Samples t-Test Reoccurrence of Abuse and Behavioural Characteristics

Behavioural Characteristic	Test	Statistic	df	p	Mean		SD		Cohen's d
					Abuse	No abuse	Abuse	No abuse	
Non-reciprocal	Student	1.67	41.00	0.103	4.9	6.3	2.4	2.7	0.568
	Welch	1.58	18.15	0.130					0.552
Insecure	Student	1.58	41.00	0.122	7.1	8.5	2.6	2.2	0.537
	Welch	1.72	24.19	0.098					0.560
Anxious/distrustful	Student	1.09	41.00	0.280	7.7	8.8	2.8	3.02	0.372
	Welch	1.06	18.97	0.301					0.366
Sexual behaviour	Student	0.88	41.0	0.383	1.1	1.8	2.1	2.1	0.300
	Welch	0.88	19.78	0.392					0.299
Food maintenance	Student	0.72	41.00	0.478	3.7	4.3	2.6	2.9	0.244
	Welch	0.68	18.32	0.503					0.238
Indiscriminate	Student	-0.71	41.00	0.482	4.1	3.5	2.5	2.02	-0.241
	Welch	-0.77	24.17	0.447					-0.251
Self-injury	Student	-0.63	41.00	0.533	3.1	2.7	2.1	2.3	-0.214
	Welch	-0.60	18.54	0.554					-0.209
Pseudomature	Student	0.25	41.00	0.804	6.3	6.5	2.5	2.4	0.085
	Welch	0.26	21.26	0.800					0.086
Abnormal pain	Student	-0.07	41.00	0.946	3.8	3.8	2.2	2.9	-0.023
	Welch	-0.06	16.38	0.952					-0.022

Perpetrator characteristics for reoccurring abuse

There were 13 participants who reported that the perpetrator of their reoccurrence of abuse was female and 16 reported that the perpetrator was male. The most commonly reported perpetrator was parents, guardians, or caregivers. One reported that the perpetrator was a partner of a parent, guardian, or caregiver. Four participants reported that the perpetrator was a sibling. Four reported that a teacher was the perpetrator. One participant reported that a friend was the perpetrator. One participant reported that support staff at school perpetrated the reoccurrence of abuse. One person reported that their significant other was the perpetrator. One person reported that a family friend was the perpetrator. The most common race reported for perpetrators was Caucasian. One participant preferred not to report the race of the perpetrator. See Table 5.12 for full perpetrator characteristics.

Table 5. 12

Perpetrator Characteristics for Reoccurrence of Abuse

Who perpetrated	Frequency	Race	Frequency	Gender	Frequency
Other	4	Asian/Asian American/Asian British	2	Female	13
Other extended relative	1	Caucasian	26	Male	16
Parent/Guardian/Caregiver	16	Mixed/Multiple Races	1		
Parent/Guardian/Caregiver, Sibling, Partner of parent/guardian/caregiver	1	Prefer not to say	1		
Parent/Guardian/Caregiver, Sibling, Teacher, Other extended relative, Other	1				
Parent/Guardian/Caregiver, Teacher	1				
Parent/Guardian/Caregiver, Teacher, Other	1				
Sibling	2				
Teacher	1				
Teacher, Other	1				
Total	29		30		29

Therapy

Whilst 14 (out of the 43 that experienced abuse) were recommend therapy to treat the abuse they had experienced, only seven actually completed the therapy. All who completed therapy reported that they had CBT, along with other types of therapy. Five participants reported that they had trauma-based therapy along with CBT. One participant reported that they had family therapy and applied behavioural analysis, in conjunction with trauma-based therapy and CBT. One person reported that they had Eye Movement Desensitisation and Reprocessing (EMDR) therapy, along with trauma-based therapy and CBT. One person reported they had Dialectical Behavioural Therapy, mindfulness-based therapy, compassion-based therapy, along with trauma-based therapy and CBT. Of those that completed the therapy seven had a reduction trauma-related symptoms with two reporting a substantial reduction in symptoms. Five participants reported a reduction in depression symptoms with two reporting a substantial reduction. Six reported a reduction in anxiety related symptoms with one reporting a substantial reduction. Four participants reported a reduction in behavioural issues and four reported a reduction in language and communication issues. See Table 5.13 for complete information on therapy and symptoms.

Table 5. 13

Therapy for Abuse	Therapy for ASC	Completed	Trauma	Depression	Anxiety	Behavioural	Language
	CBT	No	Unknown	Some	Some	N/a	None
Unknown	CBT, Speech/language Therapy	Yes	Some	Some	Some	Substantially	Some
Trauma-based therapy, CBT, Other		Yes	Some	substantially	Substantially	Unknown	Unknown
	Family Therapy, OT, Other	No	Some	Substantially	Some	Substantially	Some
Trauma-based Therapy, CBT, other		Yes	Substantially	None	None	None	None
	OT, CBT	Yes	None	None	Substantially	Some	None
	Family Therapy, OT, CBT, Other	Yes	Some	Some	Some	Some	Some
Trauma-based therapy, ABA, OT, CBT	Other	Yes	Unknown	Some	Some	Unknown	Unknown
ABA, CBT		No	None	None	None	None	None
Trauma-based therapy, CBT	OT, Speech/language therapy, other	No	None	None	Some	Unknown	Unknown
	Family Therapy, CBT	Yes	N/a	None	None	None	None
Trauma-based therapy, CBT, Other	ABA, OT	No	None	None	None	None	None
CBT		Yes	None	None	None	None	None
Trauma-based therapy		No	None	None	Some	None	None
CBT		Yes	Some	Some	Some	Some	Some
	OT, CBT, Speech/language Therapy	No	Unknown	Unknown	Some	N/a	Some
	ABA, CBT	No	N/a	N/a	N/a	N/a	N/a
Trauma-based Therapy, CBT		Yes	Some	None	Some	N/a	N/a
	Family Therapy, CBT, Speech/language therapy, other	Yes	None	None	Some	Some	None
	OT, CBT, Speech/language therapy, other	Yes	Some	Some	Substantially	None	Some
	CBT, Unknown, Other	N/a					
CBT		No	Some	Some	Some	None	None
Trauma-based therapy		No	None	None	None	None	None
CBT		Yes	Unknown	Some	Some	Unknown	Unknown
Other	Other	No	None	None	None	None	None
CBT		Yes	Substantially	Substantially	Substantially	Substantially	Substantially
Trauma-based Therapy		Yes	None	None	None	None	None
	OT	Yes	Substantially	Some	Some	N/a	Substantially
Trauma-based Therapy, Family Therapy, CBT, other	CBT	No	None	None	None	Some	Unknown
Family Therapy		No	None	None	None	None	None
	CBT	Yes	N/a	Some	Some	N/a	N/a
Trauma-based therapy, CBT	ABA, Speech/language therapy	Yes	Substantially	Substantially	Some	Some	Some
Trauma-based therapy, other		No	None	None	None	None	None
CBT		Yes	Some	Some	Some	Some	Some
Trauma-based therapy, Family therapy, ABA, CBT		Yes	Some	Some	None	Some	Some

Note. This Table shows the recommended therapies for participants and reduction of symptoms. The following headings represent the reduction of corresponding symptoms as reported by participants :Trauma, Depression, Anxiety, Behavioural, Language.

5.3.1 Discussion for Study 1a

The current research was conducted to determine the prevalence of ACEs and their associated characteristics in children with ASC via an online survey of autistic adults. Results supported the first hypothesis indicating that those who have impacted verbal skills are more likely to experience ACEs. Initially, the current study planned to investigate ASC severity and ACEs, however, due to the number of participants who did not know their ASC level this was not possible. Instead, an exploratory test was performed on impacted skills and ACE experience, as ASC severity is often linked to more impacted skills (Berg et al., 2016). Whilst evidence supports this link, directionality is often discussed within research suggesting that ACE exposure impacts verbal skills (Hawkins et al., 2021; Pournaghash-Tehrani & Feizabadi, 2009; Sciaraffa et al., 2018). However, due to the nature of this type of research, the direction of the relationship cannot be determined within the current study. It is possible that children with impacted verbal skills have less of an ability to discuss experiences or issues that are occurring, causing them to be at higher risk for ACEs and abuse (Dodds, 2020; Hoover & Kaufman, 2018; Kerns et al., 2015; Mehtar & Mukkades, 2011). However, the results from the current study warrant further explorations into impacted verbal skills and ACEs.

In a similar vein, it was hypothesised that those with impacted daily living skills were more likely to experience ACEs. Interestingly, this study found that impacted daily living skills were found to have only a small association with ACE exposure. Daily living skills include a multitude of tasks, which are essential to independent living (e.g., personal hygiene, dressing, meal planning, and managing finances; Hus Bal et al., 2015). As with impacted verbal skills, impacted daily living skills cause more dependence on caregivers for daily tasks (Marsack-Topolewski et al., 2021). Research suggests that in vulnerable populations, such as the elderly or those with physical disabilities, increased dependence for daily living skills is a strong risk factor for ACE exposure (Morgart et al., 2021). Reasons for the small association found in the current study may be due to daily living skill attainment in childhood. Evidence suggests that individuals with ASC attain more independence in daily living skills from childhood to young adulthood, which then decline or plateau into further adulthood (Clarke et al., 2021; Hus Bal et al., 2015). Though, daily living skills are still below age equivalent levels for those with impacted skills, the gains seen in childhood could account for more independence and, in turn, less ACE exposure. Future research should consider exploring the association between children with impacted skills and ACE exposure further, to gain a better understanding of those at risk. Additionally, as daily living skills trajectory has been observed to plateau in adults with ASC, research should consider examining this in association with ACE exposure.

Additional exploratory analyses supported the hypothesis that those who have impacted verbal skills and daily living skills were more likely to experience abuse. The findings suggested an association between both, impacted verbal skills and daily living skills, and experiencing abuse. Whilst this has not been directly studied previously, the prior literature suggests that impacted verbal and daily living skills may be risk factors for abuse (Kerns et al., 2015; Kodak & Bergmann, 2020; Mehtar & Mukkades, 2011). Future research should consider exploring this link more deeply as exploration of impacted skills and abuse is crucial to understanding the therapeutic needs of this population. Consideration of all abilities is a necessity for accessible treatment.

The results of an examination of abuse and ASC revealed that abuse is prevalent in children with ASC. Over half of the participants in this study reported experiencing abuse, suggesting that physical abuse (72%) and emotional abuse (93%) are the most prevalent. Though, it is important to note that a majority of participants experienced multiple types of abuse, with only four reporting one singular type of abuse (emotional and sexual). These findings support literature which reported that physical and emotional abuse were most prevalent amongst children with ASC (Brenner et al., 2018; McDonnel et al., 2019). However, other research suggests bullying and maltreatment are most likely to be experienced by children with ASC (Hoover & Kaufman, 2018; Trundle et al., 2021). Bullying can be defined differently and, in some instances, includes physical aggression or violence, and emotional abuse (Gov.UK, 2023). However, as noted in a systematic review on victimisation of children with ASC it was found that many studies did not include a definition of bullying providing difficulty in understanding what the experience entails (Trundle et al., 2021). Similarly, the definition of maltreatment covers a broad range of abuse types making it difficult to ascertain which abuse types are most commonly experienced by children with ASC (Hoover & Kaufman, 2018). As current literature is varied, the findings from the current study support a need for research to explore and understand types of abuse more thoroughly in the ASC population.

As hypothesised, those who experienced abuse reported more negative behavioural characteristics i.e., sexual behaviour, pseudomature, non-reciprocal, indiscriminate, anxious/distrustful, abnormal pain, food maintenance, and self-injury) from those who did not. The findings suggest that there was a moderate difference for non-reciprocal, indiscriminate, pseudomature, abnormal pain, and self-injury constructs. For food maintenance and anxious/distrustful constructs there was a substantial difference between the groups, suggesting a significant practical impact. These findings support existing literature which highlights that children with ASC who have experienced abuse are more likely to engage in problematic behaviours (e.g. self-injurious behaviour, aggression, sexual acting out, etc., Mandell et al., 2005). Despite these findings, these relationships are not well established in literature as there is a limited amount of research exploring behavioural symptoms in this population (McDonnell et al.,2019). As such, behaviours which indicate abuse in children with ASC are often overlooked, as these behaviours can be seen as typical in those with ASC (Mehtar & Mukkades, 2011). However, results from this study suggest that these behaviours are exaggerated in those who have experienced abuse and warrant further exploration into the behavioural characteristics of those with ASC who have experienced abuse.

As hypothesised, those who experienced abuse experienced higher ACEs than those who did not experience abuse. These findings support research that suggests abuse rarely happens in isolation and that different ACE experiences (e.g., exposure to domestic violence, exposure to stressors, and exposure to parental stressors) are risk factors for childhood abuse (Flaherty et al., 2013; Thornberry et al., 2014). In addition, children with ASC are more likely to experience ACEs than their neurotypical peers, unsurprisingly causing them to be more vulnerable to abuse (Berg et al., 2016). As research has established this link between ACE and abuse in the ASC population, research must fully consider the effects of these experiences to efficiently treat them.

In addition to these tests, ACE exposure and behavioural characteristics were also examined. As hypothesised, participants who reported higher ACE exposure also reported higher scores on constructs of the ACC-SF. Again, these results are not surprising. Evidence suggests that individuals with ASC who experience abuse are more likely to experience behavioural issues, such as self-injurious behaviours and maladaptive behaviours, as well as intrusive symptoms, such as anger, distressing thoughts, and irritability (Brenner et al., 2018; Mehtar & Mukkades, 2011; Michna et al., 2023). Although these behavioural characteristics have been observed previously, research has rarely attributed these to abuse or ACE exposure in the ASC population (Brenner et al., 2019). Indeed, due to overlapping behavioural characteristics and abuse symptomatology, individuals with ASC who exhibit these behavioural characteristics are often overlooked (Brenner et al., 2018). This neglect becomes problematic as exaggerated behavioural issues are largely seen as indicators of abuse and for children with ASC who have impacted verbal skills, these may be the only indicators (Mehtar & Mukkades, 2011). Currently, there is limited evidence of validated tools which assess symptoms associated with ACE exposure or abuse for the ASC population (Hoover & Kaufman, 2018; Michna et al., 2023). Assessment of these symptoms in the ASC population is a necessity for properly treating these symptoms and supporting those with ASC who have experienced abuse or ACE exposure. As such, future research must consider creating validated tools to assess ACEs or abuse within the ASC population.

An exploratory analysis investigated prevalence of location of abuse due to there being little research into this to date. For the current study, most participants reported that abuse occurred at their home (home of person experiencing abuse) or at school. This is unsurprising given that children with ASC are more at risk of experiencing abuse due to greater dependence on caretakers (Berg et al., 2016), which makes the abuse more likely to occur at home or at school. This supports prior research highlighting that parents are most likely to be perpetrators in psychological and physical abuse for children in the general population (Office for National Statistics, 2016), suggesting that these types of abuse could be more likely to happen at home. These findings are important as identifying prevalence of location and type of abuse associated with said location is consequential to determining risk factors and prevention strategies for abuse. Furthermore, exploration of prevalence of location is consequential in assessing therapeutic needs as determining where a therapy should take place is vital to implementation.

An exploratory observation was performed to assess reoccurrence of abuse. For the current study, 72% of participants reported a reoccurrence of abuse. Consistent with the primary findings on abuse, emotional abuse and physical abuse were reported most often. Evidence suggests that those who experience childhood abuse are more likely to experience a reoccurrence of abuse in adulthood (Frugaard Stroem et al., 2019). Additionally, research exploring sexual abuse has found that women with ASC are more likely to experience a reoccurrence of abuse, particularly if they are young (Cazalis et al., 2022). Despite this evidence, reoccurrence of other types of abuse in the ASC population has not been well documented. As children with ASC are more vulnerable to abuse, future research should consider exploring this link more thoroughly to provide a better understanding of risk factors and therapeutic needs. Additionally, an exploration of impacted skills and reoccurrence of abuse was performed through a chi-squared test. Contrary to the previous findings, it was found that impacted verbal skill and daily living skills had a very small association with reoccurrence of abuse, however these results should be taken with caution given the small sample size. As evidence suggests that impacted skills may be a risk factor of childhood abuse and that childhood abuse is an indicator for reoccurrence of abuse, future research should consider exploring reoccurrence of abuse in the ASC population more thoroughly (Brenner et al., 2018; Mehtar & Mukkades, 2011).

An exploratory examination of behavioural characteristics and recurrence of abuse was performed. It was hypothesised that there would be a difference in behavioural characteristics between those who experienced reoccurrence of abuse and those who experienced abuse, yet not reoccurrence of abuse. Though the hypothesis was supported, contrary to the previous findings in this study, those who experienced reoccurrence of abuse experienced less behaviours on each construct except abnormal pain and self-injury. Currently, there is a gap in literature exploring behavioural characteristics and reoccurrence of abuse in the ASC population. Though, for individuals with ASC interpretation bias may have contributed to these findings. As the participants noted some impacted verbal skills, participants could have misunderstood the questions pertaining to reoccurrence of abuse. Other participants may have experienced continual abuse in which instances did not stop then reoccur.

Perpetrator characteristics were assessed using descriptive statistics. It was hypothesised that parents or guardians would be most likely to perpetrate abuse and reoccurrence of abuse. The numerical patterns observed support the hypothesis, with nearly half of the participants reporting that the perpetrator was a parent, guardian, or caregiver. Research suggests that the family caregiver (i.e. a parent or guardian) is most likely to be the perpetrator in cases involving children with ASC (McDonnell et al., 2019). Additionally, for this study males and females were found to perpetrate equally. These findings are supported by the UK national statistics, where mothers were reported to perpetrate at equal rates of fathers (Office for National Statistics, 2016). Though these findings are not surprising, they are concerning. Children with ASC have a clear risk of experiencing more abuse, particularly if they are more dependent on caregivers. It is, therefore, important for future research to explore these findings further as understanding perpetrator characteristics allows for more preventative measures.

Despite over half of the participants reporting experiences of abuse, only 32% were recommended therapy for the abuse. These findings are slightly higher than current literature suggests. In a literature review, it was found that only 8% to 23% of children receive referrals to abuse-related treatment (Read et al., 2018). As the findings of the current study include a small sample size, results should be interpreted with caution as they may not be generalisable. Additionally, as this study's population included only adults with ASC, it is important to note that recommendations may have been made at any time in the participants life, not only in childhood.

Of the 14 who were referred for therapy for abuse, only seven reported completing this therapy. While there is no evidence on attrition rates for abuse-related therapy for children with ASC, high attrition rates have been observed across certain therapies for maltreated children (Batzer et al., 2018). High attrition rates are concerning considering research has found that untreated instances of abuse lead to higher rates of reoccurrence of abuse (Bockers et al., 2014). As the ASC population is at higher risk of experiencing initial abuse and referral rates to treatment have been observed to be low, this population may be at higher risk of reoccurrence of abuse. Future research should consider observing reoccurrence of abuse in the ASC population, to determine risk factors and treatment outcomes. Additionally, treatment attrition rates and their corresponding reasonings should be explored to develop a better understanding of treatment for this population.

This study explored ACEs, abuse, and associated characteristics in autistic adults. It found that there was a high prevalence of abuse and ACEs in the ASC community. First, it found that physical abuse and emotional abuse were the most prevalent. Next, it found that ACEs and experiencing abuse are associated with more negative behavioural characteristics. Third, this study found that parents, guardians, and caregivers are more likely to perpetrate abuse. Fourth, it found that there is a high prevalence of reoccurrence of abuse within the ASC population. Lastly, it found that there is a lack of recommendations for treatment for ASC and abuse. This chapter will now move on to present the results from Study 1b.

5.4 Study 1b Results

Abuse

Whilst the same inferential statistics as in Study 1a were planned, only six of the 47 participants reported that their child experienced abuse so only descriptive statistics will be reported. Most participants reported emotional abuse, with physical abuse being second most reported (see Table 5.14).

Table 5. 14

Abuse type, Verbal skills and Daily living skills

Abuse type		**Verbal skills**		**Daily living skills**	
	Overall Frequency	Not Impacted	Somewhat Impacted	Not Impacted	Somewhat Impacted
Emotional	3	2	1	1	2
Neglect	1	1	0	1	0
Physical, Emotional	2	1	1	0	2
Total	6	4	2	2	4

Prevalence of where abuse occurred

Four participants reported that abuse occurred at the home of the child (1 of these also reported that abuse took place at the home of the perp and another reported that it happened at another unspecified location as well). Two participants reported that the abuse happened at school (See Table 5.15).

Table 5. 15

Frequencies of Location of Abuse

Where abuse	Frequency
Home of child	2
Home of child, Home of the perpetrator	1
Home of child, Other	1
School	2
Total	6

Abuse and adverse childhood experience

The number of adverse childhood experiences ranged from zero to six (*M*=1.23, *SD*=1.29), Table 5.16 shows the descriptive statistics for those that experienced abuse and those that did not separately.

Table 5. 16

Descriptive Statistics for ACE scores

	ACE total	
	No Abuse	**Abuse**
Mean	1.0	2.7
Std. Deviation	1.1	1.9
Range	4.0	5.0
Minimum	0.0	1.0
Maximum	4.0	6.0
Total	41	6

Abuse and behavioural characteristics

For this survey the ACC-SF was used to measure behavioural characteristics. For the entire sample constructs were used to measure sexual behaviour (*M*= .404, *SD*=1.41), pseudomature (*M*=3.98, *SD*=2.43), non-reciprocal (*M*=4.60, *SD*=2.58), indiscriminate (*M*=2.47, *SD*=2.24), insecure (*M*=5.17, *SD*=2.85) anxious/distrustful (*M*=5.17, *SD*=3.01), abnormal pain (*M*=2.64, *SD*=2.28), food maintenance (*M*=2.23, *SD*=2.21), and self-injury (*M*=1.98, *SD*=2.07). Table 5.17 shows the descriptive statistic for those that experienced abused and those that did not separately.

Table 5. 17

Descriptive Statistics on Abuse and Behavioural Characteristics

	Sexual behaviour		Pseudomature		Non-reciprocal		Indiscriminate		Insecure		Anxious/distrustful		Abnormal pain		Food maintenance		Self injury	
	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse	No Abuse	Abuse
Mean	0.20	1.83	3.81	5.17	4.78	3.33	2.29	3.67	4.83	7.50	5.10	5.67	2.66	2.50	2.20	2.50	1.88	2.67
Std. Deviation	0.98	2.79	2.36	2.79	2.56	2.50	2.04	3.27	2.78	2.35	3.06	2.88	2.40	1.23	2.17	2.67	2.09	1.97
Minimum	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	3.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	1.00
Maximum	6.00	7.00	8.00	8.00	12.00	7.00	8.00	8.00	10.00	9.00	12.00	10.00	8.00	3.00	8.00	7.00	8.00	5.00

Perpetrators

Three participants reported that a parent, guardian, or caregiver was the perpetrator, with one participant specifying the father was the perpetrator. One parent reported that peers were the perpetrators. One participant reported that a sibling was the perpetrator and one reported that a teacher was the perpetrator. A majority of the perpetrators were Caucasian (N=5). A majority of the perpetrators were reported as being male (N=5). See Table 5.18 for perpetrator characteristics.

Table 5. 18

Perpetrator Characteristics

Who perpetrated	Frequency	Race	Frequency	Gender	Frequency
Other	1	Caucasian	5	Male	5
Parent/Guardian/Caregiver	3	Unknown	1	Female	1
Sibling	1				
Teacher	1				
Totals	6		6		6

Therapy

Of the six participants who reported their child experienced abuse, only one was recommended therapy for the abuse. They participated in trauma-based (EMDR) therapy, but did not complete it. Sixteen participants reported that their child was recommended therapy for ASC, only seven reported that their child had completed the therapy.

5.4.1 Study 1b Discussion

This survey aimed to explore the prevalence of ACEs and their associated characteristics in children with ASC. Parents, guardians, and caregivers were asked about the child with ASC in their care. However, due to the low response rate and unequal sample sizes between those who reported abuse and those who did not, there was insufficient power for inferential tests. Whilst descriptive statistics were provided, the very small numbers (especially for those who experienced abuse) means that these results should be taken with caution.

Contrary to the hypothesis, there was very low reporting of abuse. This also contradicts the existing literature, which suggests that children with ASC experience higher rates of abuse (Thornberry et al., 2014). These findings are also surprising as results from Study 1a show that more than half of the participants experienced abuse. As aforementioned, this could be due to the small sample size and parents not knowing that the abuse or ACEs are being experienced. Children ASC may have trouble expressing themselves or discussing experiences, causing less awareness of abuse that might be occurring (Mehtar & Mukkades, 2011). As children with ASC may have trouble expressing experiences, it is important for future research to explore at risk individuals more thoroughly. Exploring at risk individuals could help preventative measures as well as identifying better assessment methods for these populations.

The findings from this survey indicated that emotional abuse and physical abuse are the two most common types of abuse amongst this population. These findings are consistent with literature, as well as the findings from study 1a. Though, participants from this study reported less co-occurrences of abuse than seen in literature. As discussed in study 1a, types of abuse rarely happen in isolation (Flaherty et al., 2013; Thornberry et al., 2014). However, only two participants for the current study reported co-occurrence of abuse types. While there may be many reasons for this, the main reason may be that parents, caregivers, or guardians are unaware of other forms of abuse occurring, particularly abuse which does not leave visible indications (i.e. emotional abuse). Emotional abuse has been found to be largely underreported as measuring or identifying emotional abuse can be difficult (Kumari, 2020). Additionally, for certain children with ASC a lack in social awareness can contribute to experiencing more emotional abuse and bullying (Mehtar & Mukkades, 2011). As children with ASC may not be able to fully understand what they are experiencing, they may be less likely to alert parents or caregivers. Additionally, parental reporting of abuse may be low as evidence shows that parents are more likely to be perpetrators of abuse. Research suggests that some parents engage in corporal punishment to discipline their child, lacking the understanding that this constitutes as abuse (Sege et al., 2018). As parents may not understand that they are engaging in abuse, future research should consider observing parental attitudes toward types of punishments to better understand risk factors and preventative strategies.

Descriptive statistics were used to assess prevalence of location of abuse. The results showed that abuse happened at the home of the child and at school most often. These results are consistent with Study 1a, as well as with existing literature. As aforementioned in Study 1a, prevalence of location of abuse is not well documented in children with ASC. However, research outlining perpetrator characteristics discusses that children with ASC experience more abuse from the family caregiver, such as a parent (McDonnell et al., 2019), suggesting that abuse may be more likely to take place at home. As there is limited research on this topic future research should consider all facets of abuse, including location, in order to determine risk factors and assess implementation locations of treatment.

As this study examined the prevalence of ACEs and its associated characteristics, ACE exposure and abuse were assessed. Despite the low response rate for the current study, abuse was found to be associated with slightly higher ACE exposure means. These findings are consistent with current literature which suggests that abuse is an ACE that rarely occurs in isolation (Flaherty et al., 2013; Thornberry et al., 2014). As mentioned in Study 1a, children with ASC are more likely to experience ACEs which makes them more vulnerable to experiencing abuse (Berg et al., 2016). Though, as these associations are documented, research exploring exactly which ACEs are risk factors for abuse has not been observed. Future research should consider exploring specific types of ACE and their associated experiences in vulnerable populations.

In an exploratory examination, abuse and behavioural characteristics were assessed. As with Study 1a, abuse was found to be associated with higher constructs on the ACC-SF, excluding one construct of abnormal pain. These findings support current literature which suggests that individuals with ASC experience more behavioural issues and intrusive symptoms, as a result of abuse (Brenner et al., 2018; Mehtar & Mukkades, 2011; Michna et al., 2023). However, as discussed in study 1a, these behavioural issues are commonly attributed to ASC symptomatology, rather than abuse (Brenner et al., 2018; Mehtar & Mukkades 2011). This notion could also explain the low reports of abuse in the current study. Parents, guardians, or caregivers might view behavioural issues as part of their child's ASC as opposed to behavioural indicators of abuse, resulting in the abuse being unnoticed. Future research should consider validated assessment tools for this population as well as allowing these assessments to be more widespread.

Descriptive statistics were used to assess perpetrator characteristics. It was hypothesised that parents, guardians or caregivers would be most likely to perpetrate the abuse. The findings of this study numerically supported this hypothesis and are consistent with literature which suggests that parents or the family caregiver is most likely to perpetrate abuse (McDonell et al., 2019). However, perpetrator characteristics for this study differ from literature and Study 1a which suggest that males and females perpetrate equally. This study found that more males perpetrated than females, though this may be due to the low number of reports. As children with ASC are at higher risk of experiencing abuse, future research should consider other means of data collection to identify perpetrator characteristics. Identifying perpetrator characteristics in this population will help to identify risk factors as well as preventative and treatment strategies.

In exploring treatments, this study found that only one person was recommended treatment for abuse. This finding supports current literature which suggests only 8% to 23% of children receive abuse-related treatment (Read et al., 2018). However, these results should be interpreted with caution as there were only six individuals reporting on abuse-related therapy. As there were a low number of respondents, research should consider exploring other means of identifying abuse-related treatment in the ASC population. Assessments and reports from general practitioners or clinical specialists may help to identify accurate representations of treatment recommendations for this population.

Limitations of Studies 1a and 1b. Despite both surveys being open for nearly two years, the survey's included a small number of participants, as such results should be interpreted with caution. Future research on this topic should consider other means of data collection such as utilising government census reports or reports used by social workers. Utilising such reports will allow for larger data sets and more generalisation of the results.

As this survey attempted to gather as much information on this topic, the survey consisted of demographic questions, a questionnaire, and assessment checklist. The survey length was around 30-50 minutes, which may have contributed to fatigue. Survey fatigue may be especially present in participants with ASC as they can have difficulties with concentration and long tasks (Haas et al., 2016). To mitigate fatigue, future researchers should try to limit survey lengths or include an option to finish the survey at a later date (Haas et al., 2016). Reducing fatigue can help with more participant responses as well as better reporting from participants.

Another limitation includes interpretation bias. As participants for this study included those with impacted verbal skills, interpretation bias could have occurred. Participants could have found issues in understanding questions resulting in questions to be answered in a different way than intended (Haas et al., 2016). Although, this study was reviewed by individuals with ASC and experts by profession, assessment questions and the ACE checklist were only amended to fit second-person perspective. Future researchers should consider adapting all questions -where possible- and including individuals with ASC to ensure that there are no ambiguously worded questions.

Additionally, Study 1a only used retrospective reporting, which is subject to a number of biases. Memory bias, in particular, can be present in retrospective reporting causing individuals to overreport or underreport experiences (Baldwin et al., 2019). Utilising subsequent prospective reports may help supplement the data and allow for a more accurate depiction of this population.

5.5 Translating the Evidence for the Quantitative phase

The studies performed in this chapter provided insight into the prevalence of ACEs and their associated characteristics in the ASC community. This chapter provided knowledge of prevalence of abuse, abuse type, abuse location, and perpetrator characteristics. Additionally, it provided important insight into behavioural characteristics associated with children with ASC who experienced physical abuse.

Overall, there were two core areas drawn from the qualitative phase in relation to intervention design;

- Knowledge around current symptomology for children with ASC who experienced physical abuse and its' implications for target populations
- Insight into prevalence of abuse and associated characteristics in children with ASC

It is important to note that both of these core areas included implications for other target populations in supporting children with ASC who experienced physical abuse, which will be addressed within each respective section.

This section will now outline these core areas, in line with the logic model, in order to fully demonstrate how the findings produced from the quantitative phase can be translated into intervention design. As explained in the previous chapter, the logic model contains five columns (four columns are labelled in Sections as A, B, C, D, respectively). Section A highlights the inputs or needs that were generated from the knowledge in this phase. Section B highlights the possible theories or assumptions which can be used to inform a future intervention, these were created from the current evidence base surrounding autistic children and children who experienced physical abuse. Section C shows the suggested target populations, generated from the inputs. Lastly, section D illustrate specific intervention characteristics or strategies that show promise.

Knowledge around current symptomology

Both studies observed the prevalence of ACEs and associated characteristics in the ASC population. Results highlighted that there is a prevalence of abuse within the ASC community, and that physical abuse and emotional abuse are the most prevalent. These findings help to clarify and identify the issue of abuse within the ASC population, which contributes valuable information on the target populations and their needs for a potential intervention.

First, these surveys provided the input that children with ASC who experienced physical abuse report higher rates of certain behavioural characteristics (i.e. sexual behaviour, pseudomaturity, insecure behaviour, anxious/distrustful behaviour, food maintenance, self-injurious behaviour, and indiscriminate behaviour; Section A).

However, the findings of the current study are also consistent with literature suggesting that children with ASC who have not experienced abuse exhibit these behaviours as well, but to a lesser extent (Beddow & Brooks, 2015; Davidson et al., 2022; Gulsrud et al., 2018; Ledford & Gast, 2006; Spain et al., 2018). As ASC symptomology and children who experience physical abuse symptomology overlap, physical abuse occurring in children with ASC may go unnoticed. Additionally, this phase provided the input that impacted verbal skills and daily living skills were associated with experiencing abuse (Section A). This finding further highlights a need for caregivers, school staff, and clinicians who assess ASC to recognise physical abuse within children with ASC, as impacted verbal skills can mean that children are unable to disclose their experiences (Section C). As such, an important output for the logic model includes a workshop for caregivers, teachers and school staff, and clinicians (Section D). These workshops can help facilitate knowledge, understanding and recognition of physical abuse within the ASC community. Workshops can be utilised throughout schools to inform all teachers and school staff and be provided during care for parents of children with ASC. The implementation of a workshop for these populations can provide additional support in preventing further physical abuse in children with ASC as reoccurrence of abuse was found to be prevalent, with 72% of participant reporting reoccurrence of abuse.

Insight into abuse and associated characteristics

Another important finding highlights the lack of reported abuse of children with ASC within caregivers (Section A). Though, this phase found that caregivers are most likely to be perpetrators, other factors can influence caregiver decisions to report. For example, caregivers of children with ASC may not be aware of their child's experiences of abuse, and therefore, these can go unreported (Mehtar & Mukkades, 2011). Additionally, literature suggests that parents who experienced abuse as children are more likely to perpetrate abuse. This may be due to normalisation of abuse, which subsequently causes a lack of understanding of what constitutes as abuse (Greene et al., 2020). Therefore, a workshop for caregivers to have knowledge and understanding surrounding physical abuse, subsequently facilitating them to recognise physical abuse has been included in the logic model (Section D).

Next, the findings of the current phase highlighted school as being the second most common place for abuse to occur (Section A). However, as only six participants from Study 1A and one participant from Study 1B reported teachers as perpetrators, these findings suggest that abuse occurring at school could be perpetrated by others, such as peers. Evidence suggests that children with ASC are more likely to be bullied, including experiencing physical abuse, by peers at school (Trundle, 2020; Schroeder et al., 2014). However, teachers or school staff may be unaware of occurrences of bullying and additionally may not perceive bullying as encompassing physical abuse (Mahon et al., 2023). This lack of knowledge surrounding exactly what physical abuse entails, further demonstrates a need for workshops targeting teachers and school staff (Section D).

In addition, children with ASC may struggle to identify experiences of physical abuse. Difficulties in social relationships and communication make children with ASC more vulnerable to abuse, however these difficulties can also cause an inability to understand and disclose physical abuse (Mehtar & Mukkades, 2011; Schroeder et al., 2014). As such, it is important for children to develop an understanding and recognition of physical abuse, which in turn, may enable support-seeking. To facilitate this understanding and recognition, a child workshop outlining specifics about physical abuse could be useful (Section D).

Subsequently, it is important for children to find acceptance of their feelings surrounding their experience to facilitate responses, such as support-seeking. For example, abuse can lead to feelings of shame, guilt, fear, and self-blame surrounding the abuse (Deblinger & Runyon, 2005; Latiff et al., 2024). However, practitioner-led sessions can help to mitigate these feelings through promoting self-acceptance and validation (Deblinger & Runyon, 2005). These feelings of self-acceptance can further help children in recognising and responding to physical abuse. As such, it is important for children with ASC who experienced physical abuse to engage in practitioner led sessions (Section D). See Table 5.19 for evidence included in the logic model from this phase.

Table 5. 19

Phase Informed Components of Logic Model

Phase two	Inputs: 'needs' that this thesis will generate or identify (Section A)	Possible Theories and Assumptions (Section B)	Suggested Target populations (Section C)	Potential Outputs relevant for Intervention Design (Section D)
	Knowledge that: Prevalence of abuse: -High prevalence of abuse within ASC community -High prevalence of abuse occurring at home and at school Symptomology associated with children with ASC and abuse: -Behavioural characteristics associated with ASC and abuse -Lack of recommendations for treatment for abuse and ASC More participatory research: - The formation of an expert by experience stakeholder group	Theory of revictimization	-Children with ASC who experienced physical abuse -Parents, guardians, and caregivers of children with ASC and children who experienced abuse -Clinicians who assess abuse in children with ASC	-Child workshop -Practitioner guided session for child -Parent workshop -Teachers and school staff workshop -Clinicians workshop

This thesis will now move on to presenting a qualitative study exploring the experiences of adults with ASC who experienced childhood abuse and experiences of parents, guardians, and caregivers of children with ASC who experienced physical abuse.

Chapter Six: Qualitative Phase

Exploring the Intersectionality of Experiences with ASC and Physical Abuse through IPA

6.1 Introduction

Within this chapter, the final phase will be outlined. First, background will be provided on current research of experiences of childhood ASC. Second, a description of the IPA methodology utilised will be outlined. Following the methodology, a summary of superordinate themes along with their embedded subthemes will be outlined. This will be followed by an analytical account and subsequent discussion of the nuanced experiences captured within each superordinate theme and subtheme. Finally, a discussion of the themes will be provided, in line with translating the insights gained from this phase into recommendations for intervention design. The aim of this chapter is to provide a detailed narrative and interpretation of the experiences of individuals with ASC who experienced childhood physical abuse.

As discussed in Chapter One, ASC is a complex and diverse condition which appears differently in each individual with ASC (Hodges et al., 2020; Lord et al., 2018). As such, experiences of each person with ASC vary greatly. However, much qualitative research on ASC focuses on parent, clinician, teacher, or sibling perspective, with relatively few articles focusing on first person experiences (DePape & Lindsay, 2016; Goodall, 2018; Kirby et al., 2016). Though exploration of ASC through different lenses is valuable, particularly for children with impacted verbal skills, it is still important to capture the lived experiences of autistic individuals to better understand the unique nature of the condition. For example, in a qualitative meta-analysis on lived experiences of ASC through first person perspectives, identity was found to be a major theme (DePape & Lindsay, 2016). Many autistic individuals discuss their experience of ASC as being a large part of who they are (DePape & Lindsay, 2016; Williams et al., 2019). Though, despite feeling as though ASC is part of their identity, many autistic individuals still struggle with negative perceptions of their ASC (DePape & Lindsay, 2016; Williams et al., 2019). As such, utilising first person experiences provides a deeper understanding of individual experiences with ASC.

One such experience which has not been focused on in qualitative research is in relation to understanding childhood experiences with ASC. As studies on school experiences of autistic children have found that autistic children often struggle with negative perceptions of ASC, self-identity, social exclusion, and bullying as a result of their ASC, it is important to understand these experiences in a wider context (Goodall, 2018). Moreover, evidence highlights the stressful nature of experiencing feelings of being different to peers, as well as the constant anxiety attached to these experiences (DePape & Lindsay, 2016; Goodall, 2018; Williams et al., 2019). Further understanding these experiences of ASC in childhood would provide important insight into the potential challenges and support needs for this population.

In addition to experiencing social exclusion and bullying from peers, children with ASC are more likely to experience abuse, including physical abuse (McDonnell et al., 2019). The impact of these abuse experiences has been documented in research showing that children with ASC who experience abuse are more likely to experience internalised and externalised behavioural characteristics (e.g. irritability, anger, aggression, intrusive thoughts, and lethargy; Brenner et al., 2018). However, despite this association, insight into the lived experiences of this population and how such experiences impacted them, are not well explored.

As such, this chapter provides an account of the findings of an interpretive phenomenological analysis on the experiences of childhood abuse within the ASC community (IPA). This chapter initially aimed to examine the lived experiences of autistic children who experienced physical abuse through the lens of parents, guardians, and caregivers. Initially, this chapter planned to carry out semi-structured interviews with parents, guardians, or caregivers of autistic children who experienced physical abuse. Advertisements for semi-structured interviews were distributed online via social media, as well as given to ASC charities, organisations, and residential treatment centres. However, there were no participants willing to discuss their experiences despite advertisements for the study being widely distributed[3]. Given the importance of this research and insight into potential challenges for this population, the interview schedule was adapted into an online survey. Following ethical clearance (see Appendix T), the survey was distributed through social media (e.g. reddit, X, and

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[3] See chapter 8 for more information on the implications and recommendations of participant recruitment for this population.

Facebook), as well as provided to ASC charities and organisations. However, there were still low response rates for the online survey, with only three participants responding. As such, to supplement data and allow for a deeper understanding of the personal lived experiences of this population, an additional online survey was opened for adults with ASC who experienced physical abuse.

6.2 Methodology

Methodological Framework

This study utilised Interpretive phenomenological analysis design and analysis (IPA; Smith et al.,2022). IPA studies focus on nuanced analysis of specific instances of lived experiences which require getting as close to a personal experience as possible, yet also recognising the researcher's role of interpreting said experience (Smith et al., 2022). As discussed in Chapter Three, this thesis is informed by a phenomenological ontology and critical realist epistemology. Adopting this method of analysis aligns with the phenomenological ontology as IPA allows the researcher to focus on participant experience and to make meanings out of participant activities and experiences (Smith et al., 2022). Though, in conducting IPA the examination of human experience is performed in a way which allows said experience to be stated in its own terms, rather than through a predefined categorical classification (Smith et al., 2022). In this way, IPA aligns with critical realism as emphasis is placed on the participant being the expert in their own experience (Yucel et al., 2018).

Participants

As this study utilised IPA and an online survey, there was no specific guidance on the number of participants needed. However, per current literature utilising qualitative surveys for adults with ASC it was suggested that there be between 17 and 100 participants (Braun et al., 2021; Anderson et al., 2018; Stewart et al., 2023). For this study, there were only 13 adults with ASC who experienced physical abuse and three parents, guardians, and caregivers of children with ASC who experienced abuse who responded to the survey. The study included only participants who had a diagnosis of ASC or whose child had a diagnosis of ASC, additionally participants had to experience childhood physical abuse.

Methods of Data Collection

An online survey was created through onlinesurveys.com used for adults with ASC who experienced physical abuse and for parents, guardians, and caregivers of children with ASC who experienced physical abuse. The survey included general questions about demographics, questions about experiences with ASC (i.e. diagnosis and how it impacts them), questions about the experience of treatment for ASC. In addition, questions were asked about the participant's experiences of abuse. The survey for autistic adults was adapted to use second person language, however all of the questions remained the same as on the parents, guardians, and caregivers survey. There were prompts for each question (e.g. did you notice any behavioural characteristics change? Or socio-emotional? Is there anything else you noticed?). See Appendix U for the parents, guardians, and caregivers survey, and Appendix V for the adults with ASC survey.

Each survey included an information sheet and consent form which was filled out by the participants at the beginning of each survey (See Appendix W for the information sheet for the survey for adults with ASC and Appendix X for the parents, guardians, and caregivers; Appendix Y for the adults with ASC consent form and Appendix Z for the parents, guardians, and caregivers). The information sheet made participants aware of their right to withdraw during and after the experiment and gave a summary of what would be asked on the survey. Participants were also given a debrief sheet at the end of the survey which asked them to provide a unique identifier which would be given to the researcher in the event they would like to withdraw from the study (See Appendix AA for adults and BB for parents, guardians, and caregivers). The debrief from included information about the survey and the overall research project, it also included information about mental health organisations and suggestions about what participants should do if they felt adverse effects from the survey.

After completing the consent form, participants were asked to answer 16 questions about their experiences. The first five questions were demographic related, with the next two asking about their experience with their (or their child's, for parents, guardians and caregivers) diagnosis. Participants were then asked about their experience with therapeutic recommendations or support in relation to their (or their child's) ASC. After, participants were asked questions about their (or their child's) experience with physical abuse and therapeutic recommendations or support regarding their physical abuse. The last question asked participants about their current experiences and anything else they would like to share about their (or their child's) experiences.

Methods of Data Analysis

Steps from Interpretative Phenomenological Analysis (Smith et al.,2022) were followed while working with the data. First, exploratory noting was used to identify specific ways participants discuss, understand and think about their experiences (Smith et al., 2022; see illustrative example in Appendix CC). In performing this first step, the researcher used hard copies of the data to make notes in the margin and identify specific points of interest in participant experiences. For example, one participant discussed their experience of exhibiting different behaviours in childhood and their experience of teachers or parents getting upset at behaviours and the participants subsequent change in behaviour after this. For this, the research wrote the note "change in behaviour due to others getting upset" in the margin of the data. Smith et al. (2022) recommends exploratory noting to stay close to the participants explicit meaning. To thoroughly explore the data, the researcher went over the data multiple times using exploratory noting. Next, experiential statements were constructed from the exploratory notes (see illustrative example in Appendix DD). For this step, Smith et al. (2022) emphasise capturing crucial experiences at various points in the text. For example, for the current data, the researcher paid close attention to which experiences were surrounding ASC and which were surround the participants experiences of ASC and physical abuse. As the data utilised was an online survey and not an interview with sequential discussions, it was important for experiences of ASC and experiences of physical abuse to be interpreted as such. In creating experiential statements, the statements should reflect the participants original words and feelings, and also the researcher's interpretation (Smith et al., 2022). Then, the experiential statements were searched for connections (Smith et al., 2022; see Appendix EE). In this step, the experiential statements were mapped together. For example, statements such as "*feeling alone-no friends*" were put together with statements such as *"ostracised for liking different things".* After mapping experiential statements together, the research named the superordinate theme (Smith et al., 2022). Within each superordinate theme, the researcher explored the experiential statements to create corresponding subthemes. The researcher then went through the data again to write down finalised themes and subthemes next to supporting quotes from participants.

6.3 Analysis

This section will first, define the superordinate themes and encapsulated subthemes. Participant experiences will then be interpreted in relation to each corresponding superordinate theme and subtheme through an analytical narrative (see Appendix FF for full participant data).

Interrogating the data using a critical realist lens allowed for emphasis to be placed on the participant experience. These experiences highlighted three superordinate themes within the data: ‘feeling different’, ‘need for understanding and acceptance’, and ‘need for safety’. Each of these superordinate themes will now be defined prior to turning to the analytical narrative.

Within the first superordinate theme, ‘feeling different’, participant experiences highlight feelings of being different from others as a result of their experience with ASC. For example, participants experienced exhibiting behaviours or traits which differed from peers or family. Some experiences included exhibiting sensory behaviours, or behaviours which others deemed odd as they did not fit in with societal norms. Within this superordinate theme experiences of isolation or being aloof were also captured through the subtheme ‘isolation or aloof’. Experiences of isolation were seen as a coping through self-isolation, as a result of being reprimanded for sensory behaviours associated with ASC, as well as a result of experiencing abuse. Similarly, experiences of being aloof were illustrated as a coping mechanism as a result of being criticized for sensory behaviours, leading to detached behaviour from others. Additionally, the superordinate theme of ‘feeling different’ also encapsulated the subtheme ‘not normal’, as participants illustrated experiences of not fitting normative expectations in childhood and adolescence resulting in feeling not normal. Within the subtheme ‘not normal’, participants experience underlying feelings of being different due to engaging in different behaviours from peers in childhood. Subsequently, these experiences of feeling different led to hardships in forming connections and normative social relationships in adolescence. Lastly, ‘feeling different’ encompassed experiences of an ‘inability to fit in’. While experiences in ‘inability to fit in’ are similar to experiences of ‘not normal’, the subtheme ‘inability to fit in’ focuses on experiences of not understanding social norms. Experiences in ‘inability to fit in’ illustrate the difficulty of navigating social expectations, resulting in negative self-perceptions and expected perceptions of judgment from others. Participants illustrate they feel different to others as they feel as though they will never fully understand nuanced social norms. This feeling of difference leads to experiencing difficulty in social relationships, resulting in anticipated judgment and disregard from others, as well as negative perceptions of the self.

The second superordinate theme, ‘need for understanding and acceptance’ illustrate how participant experiences of difficulty in conforming to society and experiences of abuse resulted in trying to understand and subsequently, accept their ASC and experiences with ASC. Within this superordinate theme, participant experiences highlight the subtheme of ‘finding self’. This subtheme emphasises participant experiences in relation to figuring out who they are. Participants illustrate how their experiences of abuse and childhood difficulties led to them seeking an ASC diagnosis, in order to understand who they are and how their past experiences shaped them. Additionally, participant experiences of a ‘need for understanding and acceptance’ included the subtheme ‘finding community’. Within ‘finding community’, participants illustrated their experience of finding others who share similar experiences to facilitate understanding and acceptance of their ASC experiences. In ‘finding community’ experiences of finding a sense of belonging and solidarity in others who share similar experiences result in a sense of empowerment for participants.

For the third superordinate theme, ‘need for safety’, participant experiences of abuse are highlighted. ‘Need for safety’ focuses on experiences of abuse which resulted in participants feeling a lack of security or protection in people, relationships, places, and across life stages. Within this superordinate theme, experiences emphasise how ‘abuse was constant’. The subtheme ‘abuse was constant’ highlights how participants experienced the cyclical nature of abuse across familial relationships, social relationships, as well as across different contexts and locations. Such experiences of ever-present abuse resulted in participants feeling as though there were no safe places, people, or relationships to rely on. In addition, ‘need for safety’ incorporated experiences of ‘searching for reasons.’ Within in the subtheme ‘searching for reasons’ participants illustrated experiences of trying to figure out why they experienced abuse. Such an experience encapsulated rationalising and normalising abuse through cultural contexts, and popular culture, in order to make sense of abuse experiences. Other participant experiences of ‘searching for reasons’ highlighted rationalising abuse experiences through their ASC, as they perceived their ASC as being the reason, they experienced abuse. Such experiences of rationalisation and normalisation result in participants experiencing a sense of normality or safety surrounding their abuse experiences. Additionally, ‘need for safety’ encapsulated experiences of ‘living in fear’. Within the subtheme ‘living in fear’ experiences of anxiety, depression, and losing a sense of the self as a result of experiencing abuse are seen. Such experiences show the impactful nature of abuse and how participants experienced withdrawal and fear, resulting in feeling a lack of safety in their everyday life. Other experiences in ‘need for safety’ incorporate ‘difficulty in relationships.’ This subtheme, ‘difficulty in relationships’, demonstrates participant experiences of hardships in relationships due to a lack of trust in people and in themselves, as a result of their experience of abuse. Within this, participants highlight negative self-perceptions which lead to a difficulty in finding safety and trust with others. Finally, experiences of ‘being seen and validated’ are captured. Participant experiences in the subtheme ‘being seen and validated’ highlight the importance of support in abuse experiences, as well as acknowledgement of being a whole person, rather than just being defined by experiences. Within this subtheme, participants illustrate how being acknowledged and experiencing positive social interactions for the first time lead to a sense of safety and positively change self-perceptions. See Table 6.1 for an overview of superordinate themes and subthemes.

Table 6. 1

Superordinate themes and their corresponding subthemes for participants with ASC

Superordinate themes	Subthemes
1. Feeling different	a. Isolation/aloof b. ‘Not normal’ c. Inability to fit in
2. Need for understanding and acceptance	a. Finding self b. Finding community
3. Need for safety	a. Abuse was constant b. Searching for reasons c. Living in fear d. Difficulty in relationships e. Being seen and validated

Superordinate Theme 1: Feeling different

Participants experiences of feeling different from their peers or family members are a key component throughout this superordinate theme. Specifically, feeling different was a sense experienced by participants, not only in relation to others, but also towards societal expectations. Subsequently, this sense of feeling different often resulted in participants revealing experiences of isolation, being punished due to this 'difference', or being perceived negatively due to an inability to conform to societal expectations. One sub-theme included within this was the experience of feeling alone, as illustrated below.

Isolation or aloof. Participants experienced interconnected feelings of isolation and aloof. For example, feelings of isolation, as well as experiencing physical isolation, were experienced in both a social and emotional sense which often resulted in participants being or becoming aloof. Conversely, feelings of being aloof resulted in an experience of feeling alone, highlighting a cyclical pattern to such experiences. Fundamentally, these experiences of isolation and aloofness were deemed as a developed necessity due to not fitting societal expectations of what a typical child should be. That is, a response to them feeling different. The illustrative quote below highlights such isolation;

> *"I was withdrawn and easy to upset all throughout my childhood- it's hard to know whether this is a result of autism or being abused or both together…teachers mostly just saw me as a sensitive child who cried at the drop of a hat, which meant every single day. This was clearly an annoyance to them…I had many instances of sensory overload and extreme discomfort as well as many more social problems. Somewhat luckily for me I had learned to be quiet and fade into the background" (*Hailey)

Above, the experience of isolation through childhood is seen as a result of characteristics of ASC and experiencing physical abuse, and of, ultimately, being different. Specifically, Hailey highlights how they were viewed as *"sensitive"* due to their consistent emotionally dysregulated responses caused by the *"sensory overload"* and *"discomfort"* they navigated daily. These emotional responses were perceived as an *"annoyance"* to teachers, those who are meant to care for children. Consequently, experiencing such negative perceptions of traits associated with their ASC and experience of abuse, heightened a sense of being different and resulted in their withdrawn disposition. Such experiences of negative perceptions and subsequent isolation are particularly impactful for the well-being of autistic children. Not only can such experiences encourage internalised emotions on the part of the child, in that they learn to be "*quiet"',* it can also increase their likeliness to self-isolate from those around them, as clearly illustrated here (Berkovits et al., 2016). Above, the negative perceptions Hailey experienced led to the belief that they were an *"annoyance"* to others, ultimately resulting in feeling *"[lucky]"* that they had learned to self-isolate from those around them.

Some participants experience of feeling different led to being aloof from strangers, such an experience is illustrated by the quote below:

> *"I always knew I was different. I didn't like certain textures, didn't like certain foods, didn't like being touched. I'd have frequent meltdowns when I was overstimulated and oftentimes would pull my hair out (trichotillomania) to calm myself down. I could talk very well at a young age, but I tended to repeat people's phrases, words, and mimick their accents for some reason. It felt like I had to. I'd get in trouble a lot for it…when it came to talking to strangers, I could never do it. I always stayed quiet and could never say a word. It felt like my mouth was glued shut. I could only nod and hum…"* (Sam)

Above, above quote demonstrates the experience of being reprimanded for their different behaviours resulted in being aloof as the participant engaged in selective mutism, subsequently leading to them being aloof around strangers. For example, the participant highlights how their sensory issues made them feel as though they were *"different"*, often causing *"meltdowns."* Subsequently, experiencing sensory issues led to sensory self-coping through *"trichotillomania"* which further exacerbated the participants feelings of difference. Sam illustrates how engaging in sensory behaviours which felt like a compulsion, such as "mimick[ing]" other people, led to consistent reprimanding. Such experiences of sensory issues and stimming[4] behaviours can be seen as problematic to neurotypicals, leading to participant experiences of negative perceptions from others (McCormack et al., 2022). Despite these speaking behaviours

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[4] Stimming behaviour refers to a self-regulatory behaviour, often seen as a restricted and repetitive behaviour in children with ASC (McCormack et al., 2022).

feeling like a compulsion, Sam highlights how they could not verbally engage with strangers, feeling as though their mouth was “glued shut”. For the participant, this experience of sensory stimming behaviours, resulted in feeling different as they would get in “trouble” for verbally copying others. Thus, normal ASC related behaviours are very much part of the experience of feeling different, due to their misalignment with societal standards. Subsequently, such behaviours become intertwined with the self-isolation and being aloof experienced by participants.

Another experience of feeling different leading to self-isolation is further illustrated below.

> *“I was bullied severely by my schoolmates…I was emotionally abuse[d] for crying about this, or for asking for help. I stopped asking for help. I tried to not interact with anyone. I would hide in quiet, dark places just so I could calm down and think clearly.”* (Erin)

Above, the experience of bullying led to self-isolation, which in turn, became a coping mechanism for the participant as they would seek out places to be alone and process thoughts and emotions. For example, Erin illustrates how their emotional and social response to being *“bullied”* resulted in experiencing more *“abuse”.* Specifically, Erin emphasises how *“crying”* about bullying and asking for *“help”*, subsequently resulted in more emotional abuse. Consequently, experiencing abuse for seeking support led to self-isolation through choosing to *“not interact”* with others, ultimately withdrawing from social interaction. Such experiences can lead to feelings of shame, and in turn, self-isolation due to it being viewed as the only safe way to process emotions (Samson et al., 2015). This is exemplified by Erin illustrating their need to be alone as a result of experiencing further abuse for reacting to bullying. Erin highlights they would *“hide”* in order to be able to *“calm down”* and process their thoughts. Such experiences of bullying caused underlying feelings of being different due to not aligning with societal expectations within the school context. Subsequent experiences of further abuse for support-seeking then led to Erin’s self-isolation as the only way to cope with their thoughts and emotions (Spain et al., 2018).

Above, experiences of self-isolation and being aloof arise from a range of encounters which emphasises participants feelings of difference. Experiencing negative perceptions by others or perceived negative perceptions can include reprimanding for sensory behaviours which feel uncontrollable, or experiencing bullying from others, resulting in feeling different or separate from others (Cooper et al., 2020; Van Roekel et al., 2010). As illustrated by the participants within this study, such encounters can result in a range of negative implications for autistic individuals. Not only can such an experience increase emotional suppression and dysregulation, it can also result in maladaptive coping mechanisms such as self-isolation and detachment from peers (Spain et al., 2018). Ultimately, these experiences can be detrimental to mental health, and subsequently affect well-being (Kwan et al., 2020; Spain et al., 2018).

'Not normal'. Within this subtheme, feeling 'not normal' is exemplified by experiences of feeling as though participants do not fit normative expectations in childhood and adolescence. Participants illustrate their experiences of engaging in behaviours which lead to feeling different from peers, subsequently leading to feeling not normal as they experience hardships and bullying while trying form normative social relationships and connecting with others in adolescence. For example, participant experiences highlight the struggles of trying to fit in with peers and the exhaustive nature of this experience. Such an experience is demonstrated below:

> *"I never knew I had autism as a child. I always felt different and found it difficult to relate to other kids. I chalked that up to being an only child of divorced parents. Looking back, I realize that I had to do things in a particular order or play a certain way with toys. Not because anyone made me, but because it felt right and anything else felt inherently wrong… In high school I remember not having a set group of friends. I'd flit around from one to another, depending who I had class with. Lunch was a bit excruciating. I often didn't have it with people I was familiar with and I felt like I forced my way in to sit with people so I didn't appear to be such a loner...It was very common for me to come home from school and take a nap. I thought I wasn't sleeping enough at night at the time. Now I think it's because it took so much energy to get through each day."* (Lily)

Above, exhaustive challenges in trying to form normative social relationships and connecting with peers are seen as a result of feeling different leading to feeling not normal across different life stages. For example, Lily demonstrates how difficulties connecting with peers in childhood caused feelings of being *"different"* from others, resulting in experiencing a difficulty to *"relate"* to other children. However, Lily *"chalked"* up her experience of feeling different in childhood to personal circumstances. As illustrated by the quote, feelings of being different and difficulties in connecting with others continued into teenage years resulting in feeling not normal as Lily indicates how they did not have a *"set group"* of peers and would *"flit"* around across friendship groups. Such a sense of difference occurred across scenarios, and across the lifespan for many participants and was particularly present during unstructured social times. Lily experienced fear of being perceived as a *"loner"* resulting in *"forced"* social interactions with unfamiliar peers during lunch times at school, furthering their feelings of not being normal. Moreover, the exhaustive nature of school resulted in Lily observing the amount of energy it took just to *"get through"* each day, further illustrating the experience of feeling different and the exhaustion of attempting to fit normative social expectations. Experiencing difficulties in peer attachment can lead to feelings of anxiety, particularly for those with ASC who have difficulty following and understanding social norms (Gorrese, 2016; Humphrey & Hebron, 2014). For Lily, their experience of trying to conform to social norms, resulted in attempting to follow what they felt social relationships should be, as to not appear as a *"loner"* to others.

Highlighted below a participant illustrates their experience of bullying and different interests as leading to a lack of social relationships:

> **"***Though I was ostracized, I genuinely just thought it was because I preferred to read and I enjoyed school. I thought those made me 'uncool' but they were so pleasurable I didn't mind. It was only when I hit adolescence that the lack of connection combined with bullying really started to hurt."*(Alex)

Above, experiences of bullying are seen to impact adolescent social connection, exacerbating feelings of not being normal. For example, Alex highlights how they were *"ostracized"* from peers as they engaged in interests which were perceived as *"uncool"*. Though they felt separation from peers in childhood, they *"enjoyed"* their differing interests. However, in adolescence the feeling of being different from peers and experiencing *"bullying"* began to impact well-being as their experience of bullying and lack of connection began to *"hurt".* Alex's experience of engaging in behaviours which peers found odd, resulted in their feeling of being not normal as they realised in adolescence their enjoyable preferences were out of the norm for their peers.

For these participants, their experience of social relationships was a driving factor in feeling ‘not normal’, particularly their inability to form social relationships in adolescence due to feeling different. Participant experiences of feeling different from peers in childhood resulted in attempts to conform, or negative interactions with others such as bullying. For the participants, these experiences of being different began to become more noticed in adolescence, causing the importance of their social relationships to change. As explained by Orben et al. (2020), adolescence is a stage of life where individuals become more sensitive to social stimuli and feel an increased need for peer interaction. Though, as children with ASC have difficulty in navigating their social world and conforming to social norms, they are often more likely to be bullied and have significantly less social support from peers (Humphrey & Hebron, 2014). For the participants, their experience of social relationships led to their feelings of not fitting in with societal norms which lead to feelings of being ‘not normal’. Although, the participants both experienced disparate interests and behaviours from peers, their perception of themselves did not change until adolescence where social relationships were the driving force for the change.

For many individuals with ASC, social relationships become a point of contention and their experiences in social relationships can cause emotional responses such as stress, or changes in perception of themselves. These points of contention ultimately provide a sense of feeling as though they do not fit in and their behaviours are not normal.

Inability to fit in. ‘Inability to fit’ in relates to social relationships and societal expectations in these relationships. Participant experiences of difficulty in navigating a social world they know they do not understand and needing to change who they are to fit societal expectations are highlighted. These experiences result in feelings of preconceived judgement by others and negative perceptions of themselves, for being unsuccessful in attempts to conform to societal norms. Experiences of difficulty in navigating a social world not understood by participants is illustrated within the quote below.

> *"I have to actively create nuance in my thinking, consciously go out of my way to think about alternate perspectives, because otherwise I will have real trouble forgiving people for something minor. I see hostility where there isn't one. I am anticipating bad intentions or mockery or waiting to put my foot in my mouth…"* (Alex)

The quote above illustrates the hardship and effort experienced in navigating social situations due to a perceived prejudgment by others. Alex highlights how they experience difficulty in social situations *"anticipating"* negative reactions from others. Moreover, Alex reveals that this pre-emptive thinking results in imagined *"hostility"*. Such a perception of preconceived judgment in social situations can create distress and feelings of inadequacy, for Alex this experience is highlighted as they are *"waiting"* to say the wrong thing in social situations (Spain et al., 2018). Such experiences of difficulty in social situations can enable participants to experience feeling different, as though they do not fit in with others, which can lead to social anxiety (Spain et al., 2018).

The quote below demonstrates how frustrating social experiences negatively impacts well-being.

> *"A lot of nuanced behavior takes place behind closed doors, in whispered or giggled, private conversation that no one will ever share a rulebook on. There's no genuine way to break into that world, no matter how I try…I will work as hard as I can to be a good person, a good friend, and a good coworker, but there's a gnawing hurt deep inside of me that feels it's all useless to try when I know I will never be able to imitate or learn these rules well enough to avoid the inevitable discard and devaluation by others"* (Alex)

Above, the experience of social norms can be seen as frustrating and impactful for the participant. Alex highlights their inability to mirror the set of rules associated with social norms, as this behaviour is perceived by the participant as secretive *"nuanced"* behaviour. As illustrated in the quote, experiencing unsuccessful attempts to *"imitate"* these social norms result in the belief that others will *"discard"* Alex. The experience of not understanding social norms can result in feeling less accepted by others, as exemplified by Alex's belief that *"devaluation"* is *"inevitable"* (Cage et al., 2018). Such an experience of trying hard to emulate behaviours which appear innate for others can cause participants to feel different from peers as they experience preconceived negative perceptions of themselves, leading to feeling as though they will be judged and abandoned for not being able to emulate others in social situations (Cook et al., 2022).

In the quote below, another participant experiences frustration while trying to imitate peers in social situations:

> *"I tried so hard to emulate people I admired but I never got it quite right. If only I could be less weird, less questioning and really overall, more pleasant"* (Lily)

In Lily's quote, the experience of struggling in social situations resulted in negative perceptions of the self. For example, Lily illustrates their experience of trying *"hard"* to *"emulate"* peers they look up to, yet feeling as though they were unsuccessful. Such an experience of failed imitation results in a negative self-perception, as Lily reveals they wish they were *"less weird"* and *"more pleasant".* Individuals with ASC often engage in a social camouflaging behaviour known as masking, this masking behaviour can lead to negative well-being and feelings of anxiety (Cage et al., 2018; Cook et al., 2022). For example, Lily illustrates their masking behaviour by trying to *"emulate"* peers, they further highlight their experience of negative perceptions of their true self through wishing they were *"less weird"* and *"more pleasant"* , as such, individuals can feel as though they differ from peers as they experience social situations though a guise hiding negative self-perceptions.

For this subtheme experiences of struggling in social situations and the negative perceptions which participants feel in these situations are highlighted. As discussed in the previous section, individuals with ASC often have difficulty following social norms which causes them to struggle in social situations (Humphrey & Hebron, 2014). In spite of this social struggle, masking is common practise among neurodivergent individuals, in particular those with ASC (Cage & Troxell-Whitman, 2019). Masking is known as "social camouflaging", in other words it is a way of trying to change oneself to fit in with others around them (Cage & Troxell-Whitman, 2019; Chapman et al., 2022, p.2; Cook et al., 2022). The quotes above illustrate the pressures participants feel in social situations and the difficulty they experience with masking. In particular, for Alex, their experience with masking stems from anxiety that they will be perceived as a loner by others, yet their masking experience results in exhaustion at the end of the day. Evidence shows that masking has been associated with negative well-being (e.g., higher rates of depression and anxiety), often due to individuals feeling less accepted by others (Cage & Troxell-Whitman, 2019; Cage et al., 2018). In the quotes above, the participants experience illustrates their perceptions of feeling as though others do not accept them, regardless of their masking. The impactful nature of these experiences is highlighted as well, as a need for feeling normal results in feelings of exhaustion or impacted mental well-being. Participant experiences highlight not feeling as though they would be accepted by others if they were their true selves.

Superordinate theme 2: Need for understanding and acceptance

A need for understanding and acceptance is a superordinate theme which illustrates experiences of a need for understanding and acceptance of their ASC and their experiences with ASC. Experiences of difficulty in conforming to societal expectations resulted in efforts to understand the self and seek out others who relate. Additionally, participant experiences of abuse led to trying to understand their ASC and how their experiences with ASC and abuse formed who they are. Participants also illustrate how finding community facilitated a better understanding of themselves, as they found others who share similar experiences. Below, experiences of need for understanding and acceptance are encapsulated in two subthemes: finding self and finding community.

Finding self. This subtheme illustrates participants experiences of trying to better understand themselves and their past experiences of feeling different from others. Participant experiences encapsulated endeavours of finding who they truly are as a means of self-acceptance and self-understanding. For example, participant experiences emphasized their self-referral to an autism clinic after realising their struggles are reflected in the diagnosis. Such an experience is demonstrated in the quotes below.

> *"I was born in 1965 but didn't get a diagnosis until 2020. Autism signs weren't recognised when I was a child so I was constantly punished by everyone around me for not being normal. They all believed I was weird on*

> *purpose...I self referred to Autism[clinic] after hearing a bit about autism and realising that this was why I was different and struggling”* (Dan)

Above, the experience of feeling misunderstood and different throughout life was validated by learning about ASC. For example, Dan illustrates the experience of being perceived by others in childhood as intentionally *“weird”.* Despite these perceptions by others, *“autism signs”* were not identified for Dan in childhood. However, Dan’s experience of *“struggling”* was understood in their later life as they learned more about ASC, resulting in their self-referral to an autism clinic. The experience of self-identification of ASC can lead to a feeling of finally understanding oneself, for Dan learning about autism resulted in them *“realising”* that it was the reason they felt different (Lewis, 2016).

For other participants, experiences of ending abuse and retrospective perceptions of themselves resulted in exploring who they were through an ASC diagnosis.

> *“…It wasn’t until I ended contact with my mother due to a physical altercation that I really began to explore myself. I realized I had always [been] a chameleon; conforming to whatever I thought would make whoever I was trying to impress like me most…The autism diagnosis I pursued on my own. In retrospect, I think I was trying to finish figuring out who I was/am and how my experiences shaped me.”* (Alex)

In the above quote, Alex illustrates how they began to *“explore”* themselves after ending connection with their mother due to experiencing abuse. Such an experience allowed for a retrospective exploration of themselves, for Alex their experience resulted in the realisation that they were always *“conforming”* in order for others to *“like”* them. These retrospective insights enabled Alex to pursue an ASC diagnosis. In doing so, Alex’s experience of receiving a diagnosis allowed them to *“figure out”* who they were and how their past experiences impacted them, supporting notions that ASC diagnosis can enable self-acceptance (Lewis, 2016).

The quotes above illustrate participants experiences of finding themselves. Participant experiences illustrate seeking out an ASC diagnosis as a result of trying to understand themselves and their past experiences, leading to self-acceptance. Such experiences overlap with those captured within the superordinate theme of feeling different. Specifically, underlying experiences of feeling different throughout life is what ultimately led to participants explorations of their true self. For some participants, learning more about ASC resonated and enlightened their experiences in early childhood and resulted in pursing an ASC diagnosis. Participants illustrate how receiving a diagnosis allowed them to learn more about themselves and their experiences, as well as how their experiences shaped who they are. Akin to finding self-acceptance, the next section will highlight how finding community with others similar to themselves, allowed for feelings of acceptance and social identity.

Finding community. Within this subtheme participant experiences of finding belonging, solidarity, and empowerment through individuals with similar experiences is illustrated through participant quotes. For some participants receiving an ASC diagnosis facilitated finding support and receiving help. Such an experience is illustrated in the quote below.

> *"For the most part, the official diagnosis helped me reach out to the autistic employees support group at work and talk to friends I had not talked to in a while. My primary method of getting help was in reading books written by autistic researchers and authors"* (Isla)

Above, the experience of receiving an ASC diagnosis facilitated communication and empowerment with other individuals with ASC which provided a network of support. For example, Isla highlights how their ASC diagnosis *"helped"* them to contact their work's ASC *"support group".* Moreover, for Isla their experience with gaining their diagnosis led them to seek out *"help"* by reading works done by other *"autistic"* individuals, enabling a sense of belonging (Lews, 2016). This feeling of belonging to a group is associated with better self-esteem as well as improved psychological well-being. Specifically, for Isla this enabled them to contact others who shared similar experiences as well as receive self-help from other individuals with ASC (Cooper et al., 2017). Isla's experience of receiving an official diagnosis facilitated acceptance and understanding of their ASC, through finding others with similar experiences.

For another participant, finding others who share a similar experience with ASC led to feeling a sense of belonging subsequently resulting in empowerment, as illustrated in the quote below.

> *"I was 20 when I received a diagnosis. For the previous year or so I had my suspicions as I did my research and heard other autistic voices. I thought about all my childhood and adolescence where my teachers would suggest my parents a physiologist due to my unusual behavior. I just had many doubts because I'm [in] a female body and there has always been the [belief] that autism is more of a 'boys thing'. But I found many women and non binary or agenderfemme presenting people who pushed me to get a diagnosis so I did just that."* (Charlie)

In the quote by Charlie, we can see how the experience of self-doubt and seeking answers through others accessing community led to pursuing an ASC diagnosis. As illustrated within the quote, learning about ASC and retrospectively observing *"unusual behavior"* in childhood led to Charlie having *"suspicions"* of having the diagnosis. However, self-doubt arose as Charlie perceived ASC as a *'boys thing'.* This experience of self-doubt led to seeking more answers and finding others who had similar experiences, for Charlie this *"pushed"* them to seek a diagnosis. Such an experience of seeking out answers and finding empowerment through others allows participants to experience self-identification through managing self-doubt (Lewis, 2016). For Charlie, their experiences of finding others who are similar to them, allowed them to find solidarity in others and empowered them to find out more about who they are.

In the quotes above, participant experiences with finding acceptance through community are illustrated. Such experiences of finding social identity are associated with more positive well-being and quality of life (Cooper et al., 2017; Lewis, 2016; Zeidner et al., 2016). Additionally, social identity facilitates social support leading to greater feelings of self-acceptance and self-esteem (Komarudin et al., 2022; Cooper et al., 2017). The experiences of participants varied in where they found their social identity, for Charlie it was through others with ASC who shared their gender identity or a similar gender identity, whereas Isla found social identity through friends, colleagues, and authors with ASC. Despite these differences, the experiences of participants highlighted the importance of finding others who share similar experiences as these experiences resulted in feelings of acceptance or respect through social identity.

The next sections will illustrate participant experiences with a need for safety after experiencing physical abuse.

Superordinate theme 3: Need for safety

This superordinate theme illustrations the impactful nature of experiences of reoccurring abuse as participants tried to navigate reasons why abuse was happening, the impact abuse had, and finally feeling seen and validated. Subthemes of a need for safety align with experiences of feeling different as outlined in the subthemes of 'Isolation and aloof' and 'inability to fit in.' However, here such a sense of feeling different, did not stem from their autistic experiences, but from their experience of abuse as participants discuss experiencing withdrawal and difficulties in relationships due to the abuse that they have experienced.

Abuse was constant. Within this subtheme, the notion that abuse followed participants throughout location, context and age is captured by the varying experiences shared by participants. The experiences of abuse consumed every facet of participants lives. For example, the experiences highlighted by participants demonstrated how abuse transcended the varying parts of their lives, including school, home and across the life span. This all-consuming abuse is illustrated by the quote below.

> *"Constant bulling from students and teachers my whole school life…I also had a father who was an emotional abuse and a bully. Approached and pestered by a paedophile at age 10. Sexually molested by the school student counsellor at age 14."* (Dan)

Above, the experience of abuse is seen as continually occurring across differing contexts, perpetrated by differing people, and through different life stages. For example, Dan illustrates the varying contexts which abuse was experienced across their *"school life"*. Not only do they experience *"bullying"* from peers and *"teachers"* this bullying also comes from their own *"father".* Moreover, for Dan, abuse was perpetrated by an array of adults, many of which, were in positions of authority, such as experiencing molestation by their school *"counsellor".* As such, not only were there no safe spaces there was also no mature guidance as a result of not having any trusted adults during childhood. Experiencing such consistent and transcendent forms of abuse can lead to the normalisation of problematic interactions, as seen when Dan highlights being *"pestered"* by a paedophile (Al Odhayani et al., 2013). Dan's normalisation of abuse reflects their persistent and pervasive experience of abuse across contexts, resulting in an inability to find safety in people or places throughout their younger life.

The experience of constant abuse was recollected through another participant's experience in the quote below.

> *"…Abuse with my mother was ongoing throughout my childhood/teenage years and somewhat into adulthood…During my teenage years I entered a romantic relationship with a boy where we were both guilty of physically abusing each other. I was often angry and jealous of people that I was close to and imagined that no one else was as terrible as I was"* (Lily)

In the above quote, abuse is highlighted as a perpetual experience perpetrated by parents, romantic partners, as well as themselves. For example, Lily illustrates how abuse was perpetrated by their *"mother"* was *"ongoing"* throughout their adolescence. However, abuse was not only perpetrated by Lily's mother it was also evident within their own *"teenage"* romantic relationship. Furthermore, abuse was not only present through being the target of abuse as Lily was also *"guilty"* of perpetuating abuse in their relationship. The reoccurrence of abuse across close relationships led to a lack of safe relationships which in turn, normalised the experience of abuse (Al Odhayani et al., 2013) For Lily, this normalisation of abuse caused a cycle of abuse to continue. However, experiencing this cycle of abuse also led to experiencing emotional self-abuse, as Lily was often *"angry"* and *"jealous",* perceiving themselves as more *"terrible"* than others. Lily illustrates how abuse was an ever-present experience that encompassed multiple aspects of her life.

In the quote below, another experience of how abuse transcended locations and contexts is illustrated.

> *"The abuse my son suffered in the first grade was not restricted to the purely physical. They also screamed at him manically and forced him to face the wall for most of the day. Their cruelty caused him to cry and then they would punish him for crying…One day they sent him home, having accidentally recording themselves on his iPad. They recorded a scene where in a child picked up my son's iPad and all the teachers start…screaming at him…then*

> *just before the end…you can hear one staff member clearly say 'hit him if he does that.'…we pulled our son from that distict and brought him into...our third district. We again had a few good years there. Then we learned that one of his classmates had been restrained 33 times without the school notifying his parents. 33 times...My child witnessed these restraints. For all I know he thought they were trying to kill this boy…It has been hell that has nearly destroyed my family. We are slowly healing but I don't know if any of us will ever be the same, especially my son"* (Mel)

In the above quote, the experience of abuse is seen as consistently present across schools as well as different contexts. For example, Mel reveals that their son's abuse was not only *"physical"* it also involved *"manically"* screaming at him and witnessing verbal abuse and *"restraints"* of classmates*.* Abuse is highlighted within the quote as perpetrated by an array of adults at Mel's son's school as *"teachers"* and other members of *"staff"* were seen *"screaming"* at a child and making threats. These experiences of abuse were also seen to cross multiple locations. Mel highlights how they changed their child's school *"district",* having *"years"* without abuse at each, yet despite having some *"good"* years the ever-present abuse would being *"again".* The experience of abuse can also be seen as transcending Mel's son, as these experiences have been *"hell",* impacting their whole *"family".* Parental experiences of such consistent abuse of their child can lead to extreme distress, with some even considering parents secondary victim-survivors (Fuller, 2016). This experience of transcendent abuse can result in feelings of distrust and overprotectiveness of their child, resulting in feeling as though there are no safe spaces (Fuller, 2016; Vilvens et al., 2021). As such, abuse can be seen as a constant experience which not only presents as multiple forms of abuse, yet also follows Mel's son from school to school, resulting in their whole family feeling the constant nature of abuse.

Participant experiences of the consistent nature of abuse are illustrated by the quotes above. Experiences of abuse are seen across locations, context, relationships, and life stages, resulting in varying experiences of feeling unsafe. For example, Dan's experience of abuse highlighted how abuse was experienced at home and at school by peers and adults who were meant to be trusted, leaving no safe spaces for them. Such experiences of constant abuse for Dan, led to problematic interactions with others and a normalisation of abuse. Other participant experiences of abuse occurring across relationships in their younger life, including their own perpetration of abuse. Individuals who experience childhood physical abuse are more likely to experience physical aggression or anger, for Lily this led to their own perpetration of abuse within their relationship (Keene & Epps, 2016). However, for Lily their experience of abuse also led to feelings of shame and guilt, resulting in a negative perception of themselves. Such experiences of abuse can lead to self-conscious feelings, resulting in anxiety or depression (Stuewig & McCloskey, 2005).

Searching for reasons. The next sub-theme to be identified was searching for reasons. This subtheme captures rationalisations of experiences of abuse as situated in cultural context, normalisations of relationships, as well as perceived entanglement of the experience of abuse and participants ASC diagnosis. Cultural normalisation of discipline and punishment was one particular rationale attributed to why abuse occurred for some participants. For example, some participants highlighted feeling on edge around their parents, when perceiving oncoming punishment due to culture.

> *"...In Hispanic/Latin culture physical discipline is normalized. I didn't understand why my punishment was getting hit either with a hand, a belt, or a sandal. I had a good relationship with my family and friends, but when there was even an inkling of potential punishment from something done…I grew fearful and anxious…the anxiety was always there to please my mother…"* (Sofia)

Above, abuse and participants experience of this is considered in line of normalised forms of discipline. For example, Sofia highlights how despite having a good relationship with their family, being *"hit"* with a *"belt"* or *"sandal"* was normalised within their culture. Despite such 'normalised' experiences of abuse, Sofia reveals a lack of *"understanding"* surrounding these incidents often resulting in experiencing fear and anxiety. Such experiences of abuse, normalised as a means of punishment, can result in experiencing feelings of shame, guilt and hypervigilance (MacGinley et al., 2020; Street, et al., 2005). For Sofia experiences of abuse led to feelings of anxiety surrounding always trying to *"please"* their mother and becoming *"anxious"* when there was feeling of potential *"punishment".* Rationalising such experiences as culturally specific *"punishment[s]"* can enable participants to apply some level of understanding to their circumstances, gaining some level of acceptance of the abuse they experienced.

In the quote below, Eric outlines their experience of normalising abuse through popular culture.

> *"…I had never had a friend before, so when arguments became physical I thought that was normal. The fact that girls being physically abusive on TV was seen as comedy probably aided in this normalization, as Lindsey and I often watched iCarly together…"* (Eric)

In the above quote, physical abuse can be seen as a normalised component of Eric's first friendship as abuse was seen as comedic on television. For example, Eric illustrates how watching friends engage in physical abuse on *'TV'* normalised abuse within their own friendship. This experience of normalisation was confined by Eric *'never'* previously having a friendship, as abusive relationships were exemplified as *'comedy'* on television shows. Idealised versions of friendships seen on television emulated the abuse Eric experienced, leading to a skewed perception of what social relationships should entail. In addition, a lack of understanding of healthy social relationships enabled the understanding of abuse through unrealistic portrayals as seen in popular culture. Such abuse seen as comedic in popular culture causes a co-rationalisation of abuse as a normal component of social relationships.

As some participants rationalise abuse through cultural context, another participant rationalises their experience through their ASC.

> *"…so if I talked about things, that was what made them real. So I couldn't talk about my abuse or how scared I was, because I literally believed words had the magic power to cause demons to attack. I believe that my autistic though patterns are why it took me so long to realize that these things were not true and were intended to silence me about the abuse I endured…"* (Alex)

Above, Alex illustrates how their ASC impacted their beliefs about their abuse. Alex highlights how they *"believed"* that talking about their abuse would *"cause"* them to be attacked. As illustrated by the quote, the experience of abuse was rationalised through ASC traits, as Alex reveals their *"autistic"* patterns were *"why"* they did not speak out about their abuse. Experiences of abuse can commonly cause feelings of shame resulting in self-blame (Dye, 2018). Such experiences of self-blame can be used as a coping strategy, allowing participants to rationalise their experience of abuse (Alix et al, 2020; Dorresteijn et al., 2019; Szentagotai-Tatar & Mui, 2016). For Alex, their experience of abuse led to their belief that their ASC way of thinking was the reason for their abuse.

For the subtheme 'searching for a reason', participant experiences highlight rationalising abuse through various means. Experiences included feelings of normalising or rationalising the abuse through cultural context, popular culture, as well as self-blame. For example, Alex illustrated how they perceived their ASC to be the reason for the continuation of their experience of abuse. Whereas for Eric, abuse can be seen as normalised through popular TV shows. Experiences of abuse can cause self-conscious emotions (i.e., guilt and shame), leading to a rationalisation of experiences (MacGinley et al., 2020; Street, et al., 2005). Rationalisation is often referred to as a defence mechanism, occurring when an individual changes their beliefs to make an action rational or provide justification for an action (Cushman, 2020; Futa et al., 2003). This defence mechanism happens as an unconscious experience and serves as a means of reducing stress and anxiety by creating inaccurate explanations for distressing conflicts (Cushman, 2020). For the participants, experiencing abuse caused them to rationalise their abuse in varying different ways. Some participant experiences of abuse led to a rationalisation through cultural context, while others led to self-blame.

Living in fear. Within this subtheme, participant experiences highlight anxiety and fear surrounding daily interactions as a result of their experience of abuse. These experiences are seen to impact participant behaviour and well-being as they illustrate experiences of withdraw and losing a sense of self. The quote below illustrates how abuse impacted daily life, resulting in withdrawn behaviour.

> *"I was a living shell, depressed, anxious, quiet, most say I was a 'living doll' who only moved and spoke when addressed to or ordered to do so…I was incapable of making decisions, had selective mutism for many years, and was at some points suicidal."* (Charlie)

Above, the impactful nature of abuse is seen as anxiety and depression resulted to an inability to make decisions and withdrawn behaviour. For example, Charlie highlights the varying ways their abuse impacted them resulting in them being a *"living doll"*. Such experiences of feeling *"anxious"* and *"depressed"* impacted daily life, as Charlie reveals they were *"incapable"* of decision making. Moreover, for Charlie their experience of abuse impacted their ability to connect with others as they experienced *"selective mutism".* Multiple facets of daily life were impacted, leading to anxiety of making wrong decisions as seen when Charlie highlights they only reacted when *"ordered"* to. Experiences of abuse can lead to negative core beliefs resulting participants feeling as though they lost their sense of self (Lanius et al., 2020). Furthermore, Charlie's experiences of abuse resulted in depression and anxiety leading to further withdraw, as fear of making the wrong decision encompassed daily life (Gardner et al., 2019; Radell et al., 2021).

Below, another experience illustrates how the impact of abuse led to withdraw and negative perceptions about the world.

> *"I was unwilling to try new things, out of the fear I could get it wrong or would get hurt doing it…I could see a wide variety of ways that an activity or person might hurt me so I just didn't risk it. I was significantly more withdrawn and anxious than I would have been. Whenever people were angry at me, it wasn't just a social threat…"* (Alex)

Above, the impact of experiencing abuse can be seen impacting social relationships as well as perceptions about safety in daily life. As illustrated within the quote, abuse led to experiences of being *"withdrawn"* and *"anxious"*. Moreover, for Alex the experience of abuse impacted their perceptions of social situations viewing other's negative emotions as more than *"just"* social conflict. Experiences of abuse can result in negative perceptions regarding trust, including safety and threat, as well as trust in others, as seen when Alex highlights their *"fear"* of trying new things or connecting with new people (Hepp et al., 2021). Such experiences of distrust in others and in activities can result in participants feeling unsafe in all situations, leading to withdrawn behaviour and anxiety.

In the quotes above, participant experiences of the impact of abuse are illustrated. Abuse is seen to impact participant perceptions of the world resulting in anxiety, depression, and becoming isolated or withdrawn. Abuse can lead to poorer mental health and well-being, as well as feelings of distrust (Hepp et al., 2021; Gardner et al., 2019; Radell et al., 2021). These feelings of distrust were seen to result in fear of trying new activities or of making new connections with others for Alex. Whereas feelings of distrust in the self was seen for Charlie. The experiences of the participants show how their experiences of abuse impact their daily lives and lead to a lack of connection with others as well as losing their sense of self.

Difficulty in relationships. Experiences of struggling to find connection with others as a result of distrust after experiencing abuse are embedded within this subtheme. Such experiences of difficulty in relationships are seen as leading to feelings of despair in social lives. Participant experiences highlight the impactful nature abuse had on maintaining relationships and on perceptions within relationships. Such an experience is demonstrated by the quote below.

> *"I struggle with feeling a genuine connection with other people. Without this connection, it's hard for me to feel like I have new friends…I struggle with paranoia that everyone is lying to me and no one actually enjoys my company or loves me"* (Sofia)

In the quote above, the impact of abuse is seen to impair social relationships as negative perceptions provide a barrier to connection. For example, Sofia highlights their experience of lacking a *"genuine"* connection with others resulting in feeling as though they do not have *"new"* friends. In addition to feeling a lack of connection with others, experiencing *"paranoia"* impacts Sofia as they perceive others to be *"lying"* about their feelings toward them. Such experiences of paranoia in social relationships can be the result of anxiety and interpersonal dysfunction caused by experience of abuse (Huh et al., 2014). For Sofia, there is a need for finding safety in others through *"genuine"* connection, yet negative perceptions and paranoia as a result of abuse provide a barrier in forming relationships.

In the quote below, Sofia's experience of how abuse impacted romantic relationships is illustrated.

> *"The abuse affected how I view all kinds of relationships...in romantic relationships specifically, I am afraid of abandonment or disappointing my partner, I cry from light hearted arguments and I am in the constant headspace that I'll be broken up with if I don't please them emotionally."* (Sofia)

Above, abuse is seen to impact participant perceptions of romantic relationships. As illustrated within the quote, Sofia highlights how abuse impacted romantic relationships resulting in them feeling *“afraid”* of abandonment. Moreover, for Sofia their experience of abuse impacted their own perceptions in relationships they have *“constant”* thoughts that they will be left. Experiences of abuse can lead to feelings of perceived inadequacy, for Sofia this is highlighted as they are afraid that their own emotional capacity will not be enough to *“please”* their partner (Downey & Crummy, 2022). Such perceptions of the self can lead to difficulties in attachment and interpersonal relationships, resulting in fear of abandonment for Sofia (Downey & Crummy, 2022). Sofias experience highlights the lack of safety they feel in relationships as they constantly fear they will be left.

Another participant’s experiences of how abuse impacted their own perceptions is illustrated in the quote below.

> *“The things that have happened to me could fill a book and it makes me sick to think about any of it. I hate showing those bad events to people. It makes me feel dirty and like it changes the way people see me. Sometimes I also feel like I am capable of infecting people with my bad, depressive thoughts.”* (Alex)

The quote above illustrates how the experience of abuse led to negative self-perception and perceived negative perception by others. For example, Alex highlights how their experience of abuse makes them feel *“dirty”* and how they feel it *“changes”* people’s perceptions of them. Additionally, for Alex abuse resulted in experiencing *“bad, depressive”* thoughts. Experiencing these thoughts and perceptions of the self, impact how the participant views themselves feeling as though if they were to show people the *“bad events”* they experienced, they would be *“infecting”* others with their perceived negative thoughts. Such feelings of negative self-perception can affect forming relationships resulting in feelings of fear, for Alex they experience fear of *“infecting”* others with their own negative perceptions (Downey & Crummy, 2022). Moreover, for Alex, their own perceptions are reflected in their experiences with others as they feel as though their experiences change the way others view them.

Above, participant experiences of feeling a lack of connection with others are seen as a result of their experience of abuse. For Sofia, we can see how their experience of abuse effected their romantic relationships as well as their social relationships leading to a fear of abandonment and perceived lack of self-capability. Whereas Alex's experiences with their own negative perceptions of self are projected onto others as they feel their past experiences change the way others view them. Experiences of abuse can lead to low self-esteem and poor self-belief, making it difficult to form healthy relationships (Downey & Crummy, 2022). Additionally, a loss of a sense of security can lead to difficulty in forming new relationships, as seen with Sofia's fear of abandonment (Al Odhayanai et al., 2013). For the participants above, experiences of abuse impacted their social relationships through negative perceptions of the self, and losing their sense of security, resulting a lack of connection and difficulty in forming new relationships.

Being seen/validated. In this subtheme, participants illustrate their experiences of being seen thorough feeling acknowledged for who they are, rather than being defined by experiences. Participant experiences highlight the importance of positive interactions with others, as well as being validated in their own experiences, resulting in a positive impact on well-being and a sense of safety within themselves. Such an experience is illustrated by the quote below.

> *"For the music therapy, I had a really good bond with the therapist. She did not once assert that she knew my truth better than me…She was okay with me saying somewhat unconventional or strange things, which I really appreciate as there's nothing worse than being treated like I'm a weirdo…I benefitted from a deeper understanding of my emotions and trauma, as well as validation from an external person – understanding…I still struggle with relationships and dealing with other people, I still have sensory issues and fixations but I try to be kinder to myself and remind myself that I have just as much of a right to occupy space than anyone else"* (Hailey)

Above, a participants experience of being seen and acknowledged for who they are is seen to facilitate validation, which allows for an understanding of experiences and a positive impact on well-being. For example, Hailey highlights how they were able to feel understood as their therapist did not *"assert"* that they knew their experiences *"better"* than Hailey. Additionally, Hailey felt as though they could be themselves without experiencing judgment as their therapist was *"okay"* with them saying things which might be seen as *“strange”.* Such an experience of not being judged allowed Hailey to explore a deeper *“understanding”* of their experience of abuse, and its’ impact on their emotions. Haileys experience with their therapist additionally allowed for *“validation”* from someone other than themselves, leading to feeling understood (Benitez et al., 2019). Furthermore, Hailey’s experience of acceptance facilitated a more positive self-perception, despite still experiencing struggles. For example, Hailey illustrates how they are *“kinder”* to themselves and now feel as though they have the same *“right”* to exist as everyone else.

Other participant experiences reflect how positive interactions and acknowledgment allowed them to experience being seen, resulted in validation as illustrated in the quote below.

> *“I had no life until I turned 16 and got out of school, I was just a constant victim, reclusive and withdrawn. When I left school and entered the workforce everything changed. The people I worked with were nice to me and for the first time in my life I discovered what it’s like to be treated with respect.”* (Dan)

The quote above illustrates how entering the workforce and being positively acknowledged by others resulted in the experience of being seen as a whole person who is not defined by their experiences, subsequently leading to validation. For example, Dan highlights how after they entered the workforce everything *“changed”,* as they experienced people being *“nice”* to them for the first time throughout their life. Such an experience allowed Dan to feel acknowledged resulting in feeling *“respect[ed]”* as a person for who they are. Dan illustrates how their experience with abuse led to them becoming *“reclusive”* and “*withdrawn”*, subsequently leading to feeling as though they were just a *“victim”* throughout their life. Positive experiences with others after *“constant”* abuse can result in participants viewing any level of social nicety as respect and acceptance. Thus, highlighting the importance of positive interactions for participants (Bonanno et al., 2007). For Dan, the experience of being respected and positively acknowledged by others, allowed Dan to experience validation as a person, and not just be viewed as a victim.

Above, experiences of validation and understanding are seen as positively impacting participants. For Hailey, experiences of feeling non-judged by their therapist allowed them to open up further and explore their past experiences of abuse and trauma. In exploring their experiences, the validation they felt from their therapist facilitated a change in self-perception, leading to feeling as though they were accepted in the world. Whereas, for Dan, finding respect through positive interactions with colleagues allowed Dan to feel acknowledged for who he is, rather than being defined by his experiences of abuse. Such experiences of validation and acceptance allow individuals to make sense of their experiences, as seen in Hailey's experience of being able to further explore their trauma and emotions (Benitez et al., 2019). Additionally, validation and acceptance allow individuals to regulate distress and strengthen self-identity, leading to overall more positive emotions (Geller et al., 2021; Kuo et al., 2022). Experiences of being seen and validated resulted in more positive self-feelings as well as feeling safe to be themselves.

6.3 Discussion

This phase explored the lived experiences of children with ASC who had experienced physical abuse. The findings from this study showed the intertwined and often complex dynamic between experiences of ASC and experiences of physical abuse. In that, participants illustrated similar feelings and experiences as a result of experiences of ASC and of physical abuse. For example, participant experiences of ASC highlighted their feelings of being different, leading to feeling alone. Similarly, participants discussed feelings of isolation and difficulty in relationships as a result of their abuse. For participants, exhibiting different behaviours resulted in an underlying feeling of separation from peers. Moreover, feeling different in social situations caused turmoil in individuals and impacted well-being. These findings are seen throughout literature as children with ASC typically struggle with communication, in turn leading to a lack of social relationships or social avoidance (Spain et al., 2018). Subsequently, experiences of abuse also led to difficulty in social relationships, highlighting the entanglement of experiencing ASC and abuse. For example, participants demonstrated how their experiences of ASC led to selective mutism, echoing this notion, participants also illustrated how their experience of abuse led to selective mutism. Often, children who experience trauma such as physical abuse are seen to experience interpersonal difficulties, leading to social isolation (Downey & Crummy, 2022; Hoover, 2015; Al Odhayanai et al., 2013). Thus, showing how the experience of ASC and abuse are cyclical in nature. These experiences led to participants finding difficulty in social aspects of life.

Another highlighted experience which intertwines the experience of ASC and abuse was searching for reasons. For example, participants searched for why they felt different leading them to experience getting diagnosed, other participants outlined their experience of normalising abuse as a reason for experiencing the abuse. While the underlying feeling was different, participants still illustrated their struggle in needing to find out something about their experience. For some participants the driving factor was experiencing abuse and searching for why they experienced abuse, for others it was wanting to find out why they felt different from peers. Despite the root experience being different, the experience of searching to understand was a common feeling. Though there is no evidence to date on this intertwined experience, this further illustrates the ways in which the experience of ASC and abuse reflect each other. This reflection is an important consideration for treatments as understanding the entanglement of these experiences would allow for better care.

As illustrated by the findings, exhaustion of being perceived and judged can lead to a negative impact on well-being. This experience, again, was reflected in experiences of abuse as well. For example, participants illustrated difficulty in relationships and feeling as though they could infect people with their negative experiences of abuse. Similarly, negative self-perceptions were highlighted in experiences with ASC. These findings are seen throughout literature as well as stigma surrounding ASC and characteristics associated with ASC have been highlighted as a factor in low self-esteem for individuals with ASC (Cooper et al., 2020). Furthermore, stigma surrounding experiences of abuse have been found to impact personal well-being and self-identity (Dukett, 2015). As such, it is important for future research to consider the intersectionality of ASC experiences and abuse experiences as they pertain to feeling stigmatised.

Another vital element which was highlighted in abuse and ASC experience was validation. Illustrated in experiences with ASC participants sought validation through community. These experiences of community helped individuals to find social support and more self-acceptance (Komarudin et al., 2022; Cooper et al., 2017). Participants emphasised how their perceptions changed once they found community and they felt safe in seeking out others who shared similar experiences to them. Similarly, participants illustrated a need for validation of their experience of abuse. Seeking out individuals who supported them and validated their experience. While, again, the root of the experience differed the overall experience showed that participants sought out support of individuals which helped to promote well-being.

The experiences of participants with ASC who experienced childhood physical abuse are heavily linked, showing the complex nature of this population's experiences. As such, it is important that experiences of individuals are seen as such. Currently, treatments for abuse are found to focus on the impact of abuse (Cohen et al., 2007), whereas these findings suggest that ASC is inherent in experiences as well. Moreover, these findings show that treatment must consider a tailored intervention which addresses not only impact of abuse, but impact of ASC as well.

6.4 Translating the Evidence

This chapter provided important insight in the lived experiences of adults with ASC who experienced childhood physical abuse and parents of autistic children who experienced physical abuse. Experiences from this chapter provided knowledge of experiences surrounding children with ASC who experienced physical abuse, issues surrounding ASC, issues surrounding physical abuse, symptomology of ASC and physical abuse within autistic children, and important target populations for a future intervention.

Overall, there were two core areas drawn from qualitative phase relation to intervention design;

- Knowledge around current issues surrounding issues, including symptomology, for children with ASC who experienced physical abuse
- Insight into target populations in best supporting children with ASC who experienced physical abuse

As previously mentioned in Chapters Four and Five, Section A highlights the inputs or needs that were created from the knowledge in this phase. Section B highlights the possible theories or assumptions which can be used to inform a future intervention. Section C outlines the suggested target populations, generated from the inputs. Finally, section D outlines specific intervention characteristics or strategies that show promise.

Knowledge around current issues and symptomology

First, participant experiences highlighted feeling different as a result of engaging in behaviours and activities which differed from peers in childhood (Section A). Many participants experiences illustrate their lack of knowledge surrounding ASC in childhood, particularly as it pertains to their own experiences, as such feeling different and a need for understanding the self were added as inputs (Section A). For example, participants illustrate experiences of not understanding why they are different, or why they cannot be ‘normal’ like their peers. For some, receiving a diagnosis helped with this notion as it promoted self-acceptance and self-identity (Lewis, 2016; Stagg & Blecher, 2019). However, other participants discuss experiences of finding others who are similar to them to understand more about themselves and their ASC (input of need for community; Section A). However, children with ASC are often excluded by peers, leading to higher rates of loneliness and social isolation (Kwan et al., 2020). As such, a child’s workshop is an important output. The child’s workshop can facilitate children’s understanding of ASC through learning about symptomology and accepting their diagnosis. Additionally, an output of individual face-to-face, one-to-one sessions has been added to the logic model (Section D). These individual face-to-face, one-to-one sessions could provide trauma-informed care to facilitate an understanding of individual’s experiences.

Other important inputs were included as participant experiences highlighted social anxiety and emotion regulation, pertaining to both ASC and their experience of physical abuse (Section A). Social anxiety and difficulties in emotion regulation have been seen in both children with ASC and children who experience physical abuse, leading to poorer psychological well-being (Davico et al., 2022; Dvir et al., 2014; Liu et al., 2023; Spain et al., 2018). As such, it is important to consider possible outputs which can help mitigate these inputs. First, individual face-to-face, one-to-one sessions could provide trauma-informed care to children helping them to gain knowledge on how to appropriately regulate emotions (Section D). Next, the output of emotional release tools can help to facilitate healthy coping mechanisms which can lead to improved self-regulation (Section D).

In addition, participant experiences highlighted a lack of normative social skills as well difficulty in relationships (Section A). For example, participants experiences illustrate difficulties in understanding nuanced behaviours involved in social relationships, as such a lack of normative social skills and difficulty in relationships have been added as an input. Often, children with ASC struggle with social skills throughout their life, with this struggle becoming more apparent during adolescence (Gates et al., 2017). Additionally, evidence suggests that children who experience maltreatment, including physical abuse, have poorer social functioning than children who have not experienced maltreatment (Pfaltz et al., 2022). Therefore, intermittent group sessions are an important output for the logic model (Section D). These group sessions could help children gain more appropriate social skills while also allowing children to build relationships and find others with similar experiences.

Subsequently, participants highlighted experiences of rationalisation of abuse through normalising their experience of physical abuse, as they were searching for reasons, they experienced physical abuse (Section A). For example, some participants emphasised that physical abuse is a normalised as a form of punishment in their culture. Though this rationalisation acts as a defence mechanism, individuals who acknowledge their experience as abuse tend to report less psychological distress and less impaired coping (Clements & Ogle, 2009). As many participant experiences reflected struggles with psychological distress and impaired coping, an input of a need for understanding and validation of experiences of physical abuse was included in the logic model. To facilitate understanding and acceptance of physical abuse, a workshop for children with ASC who experienced physical abuse is provided as an output for the logic model (Section D). This workshop for children with ASC who experienced physical abuse can provide information on what constitutes as physical abuse, including forms of punishment or peer bullying, to help children understand and accept their experience.

Other important inputs which were highlighted by participant experiences include dysfunctional attachment, validation of experiences, anxiety, and depression related to their experience of physical abuse (Section A). As such, the output of individual one-to-one, face-to-face sessions can help to provide children with trauma-informed care which facilities understanding of experiences and symptomology (Section D). Additionally, practitioner guided goal setting for child and caregiver has been included as an output (Section D). These practitioner guided goal-setting sessions for children and caregivers can help enable goal setting, skill-teaching, motivation, and a family approach to understanding experiences and symptomology associated with children’s physical abuse.

Target populations in best supporting children with ASC who experienced physical abuse

As with the two previous phases, caregivers and teachers have been identified as a target population (Section B). Participant experiences illustrated a lack of parental and teacher awareness around ASC. Evidence suggests that stigma is a contributing factor in parents seeking a diagnosis for their child and even contributes to parent beliefs after diagnosis with some parents believing that their child’s ASC would disappear over time (Crane et al., 2018; Quilendrino et al.,2015). Additionally, teachers have been found to have a poor knowledge of ASC which can lead to adequate care in an educational setting for children with ASC (Gomez-Mari et al., 2021). As such, a vital output for this logic model includes caregiver workshops and teacher and school staff workshops which can facilitate understanding, knowledge, and acceptance of ASC.

Lastly, clinicians are considered a target population for this logic model as participant experiences highlighted a lack of recommendations to treatment and a lack of understanding around ASC and physical abuse. For this, clinician workshops are recommended as an output which will help facilitate knowledge, understanding, and recognition of ASC and physical abuse. See Table 6.2 for the informed logic model from this phase.

Table 6. 2

Phase Informed Components in Logic Model

Phase three	Inputs: ‘needs’ that this thesis will generate or identify (Section A)	Possible Theories and Assumptions (Section B)	Suggested Target populations (Section C)	Potential Outputs relevant for Intervention Design (Section D)
	Knowledge of: -Experiences of those with ASC who experienced childhood physical abuse: -Feeling different - Need for understanding the self -Need for community -Need for understanding and validation of experiences of ASC -Lacking normative social skills -Difficulty in relationships -Living in fear -Searching for reasons -Need for understanding and validation of experiences of physical abuse Issues surrounding ASC: -Poor diagnosing Symptomatology in ASC: -Social anxiety -Emotion regulation -Building social relationships Issues surround physical abuse: -Poor assessment Symptomatology of physical abuse within ASC: -Emotion regulation -Validation of experiences -Anxiety -Social anxiety -Dysfunctional attachment -Depression More participatory research: -Patient-centred outcome research	-Attachment Theory -Emotional Regulation -Behavioural theory -Experiential Education -Trauma-Informed care -Cognitive-Behavioural Therapy -Dialectical Behavioural Therapy -Behavioural therapy -Social Identity theory -The Good Lives Model	-Children with ASC who experienced physical abuse -Caregivers of children with ASC and children who experienced abuse -School staff who work closely with children with ASC -Clinicians who assess abuse in children with ASC	-Child workshop -Individual face-to-face one-to-one sessions -Face to face, Intermittent group sessions for children -Practitioner guided goal setting for child and caregiver -Emotional release tools (e.g. rage exercises, role play exercises) -Parent workshop -Teachers and school staff workshop -Clinician workshop

This chapter provided an IPA on experiences of autistic adults who experienced childhood physical abuse and parents, guardians, and caregivers of children with ASC who experienced physical abuse. This chapter found important implications surrounding the entanglement of experiences of ASC and experiences of physical abuse. The findings highlighted important implications for future interventions. Specifically, this phase provided knowledge on symptomology and issues in relation to autistic individuals who experienced physical abuse.

This thesis will now move on to implications and recommendations created through all the phases of this research.

Chapter Seven: Implications and Recommendations

Healing pathways: Implications and recommendations for future explorations of physical abuse in children with ASC

7.1 Introduction: Bringing it all together

This chapter will provide the implications and recommendations created from each phase of research. First, the key findings of each phase will be outlined. Next, recommendations generated from each phase will be discussed along with their corresponding implications for research. Then, the complete logic model will be presented and discussed in relation to the recommendations created across the phases of this thesis.

This thesis aimed to gather evidence on the prevalence of abuse within children with ASC and to assess the current interventions in place to support them across three phases. First, a systematic review and narrative synthesis was conducted on interventions for children who experienced physical abuse, along with a scoping review on interventions for children with ASC. Second, a quantitative study observing the prevalence of ACEs and their associated characteristics in the ASC population was conducted. Third, a qualitative study observing experiences and therapeutic needs of children with ASC who experienced physical abuse was conducted.

The first phase aimed to review the current interventions in place for children who experienced physical abuse and children with ASC. In the systematic review and narrative synthesis, the methodological and clinical study designs prevented the efficacy of interventions from being assessed. Despite the heterogeneity of the studies, each study reported improvements in at least one outcome area. However, only three studies reported improvements in all outcome areas (Clarke et al., 2017; DeVries et al., 2015; Schohl et al., 2014). This finding suggests there may be a need for more standardised measures.

The findings for the systematic review and narrative synthesis indicated that interventions for children who experienced physical abuse primarily utilise a TF-CBT or trauma-informed theoretical basis. Trauma-based interventions were found to improve in either all outcome areas or in behavioural and cognitive areas. Attachment therapy was the next most used theoretical basis for interventions, these studies predominately showed improvements in cognitive and behavioural outcomes. Though, these were the most reported theoretical basis, other interventions also showed improvements in at least one outcome area; with some reporting improvements in all outcome areas.

The synthesis revealed that mode of delivery did not influence outcome areas as all interventions were delivered face-to-face. However, session type was found to influence outcome areas. Interventions utilising group therapy reported improvements in socio-emotional outcomes, whereas two interventions reporting on individual therapy reported improvements in all outcome areas. Parent involvement was also a factor in outcome areas. Interventions involving family group therapy, or parent concurrent therapy reported improvements in all outcome areas.

There were seven different study designs used across the studies included in this review. As such, assessing the effectiveness of interventions was not possible. Research further exploring this topic may benefit from using a standardised design, or more rigorous designs.

The most common theoretical basis for interventions was Animal Assisted Therapy and CBT-based interventions. Animal Assisted Therapy predominately improved behaviour and cognitive outcome areas. Whereas CBT-based interventions were found to predominately improve anxiety symptoms in children with ASD. The findings in this review contradicted research by finding that ABA-based interventions are not the most commonly used (Lord et al., 2020). Though, it is important to note improvements in outcome areas were found across groups involving early intensive behavioural therapy.

For the scoping review, the synthesis revealed that mode of delivery, type of session (group versus individual), and where the intervention was held did not affect outcomes. Face-to-face interventions were primarily used across studies, with one study reporting a digitalised intervention (DeVries et al., 2015). Outcome areas were improved in both face-to-face interventions as well as the digitalised intervention. Additionally, both group therapy and individual therapy were found improve outcome areas. Interventions were held at a number of different locations including at the home, in clinics, at riding centres, and in school. However, location of where the intervention was held did not influence outcomes.

The second phase aimed to determine the prevalence of ACEs and other associated issues within the ASC population. This phase involved two quantitative surveys (one for parents, guardians and caregivers of children with ASC, and one to adults with ASC) investigating the prevalence of ACEs and their associated characteristics in children with ASC. However, despite the widespread distribution on social media platforms (i.e. Facebook, Facebook groups, Reddit, X- formally known as Twitter, Instagram, and LinkedIn), charities, and residential centres, the participant numbers were low. There may be a number of reasons for low participation, including a lack of understanding surrounding the topic area, stigmatisation of the topic, and participant attitudes towards the topic. For example, potential participants may have viewed the advert (See Appendix GG) and assumed that the research did not apply to them as they (or their child) have not experienced ACEs or abuse. Similarly, individuals may not have wanted to participate as the research explores a sensitive topic which is often stigmatised. This may be especially true for parents, guardians, or caregivers who's child experienced ACEs or abuse. As such, implications for future research in vulnerable populations include utilising participatory research, including experts by experience for research design and creation, reducing sigma surrounding sensitive topics and understanding individual differences to reduce survey attrition.

Abuse was found to be prevalent in this population as about 55% of participants from the adult's survey reported experiences of abuse. As such a high percentage of the participants reported experiencing abuse, this highlighted a necessity for more research into treatment for this population. Despite these findings in adults, the converse was found in parents, guardians, and caregivers. Only 12% of the parent population reported that their child had experienced abuse. Though these results are not surprising as parents, guardians and caregivers were found to most likely be perpetrators. Furthermore, these findings highlight a need for better screening methods and reporting methods, to enable better treatment and facilitate overall better well-being for children with ASC who experienced physical abuse.

Only 14 adult participants were recommended therapy. This may be due to participants not disclosing their abuse to professionals or parents (as parents were reported to be the perpetrators for 21 participants). These findings provide important insight into abuse in the ASC population as they suggest better screening measures are needed for identifying abuse in the childhood population.

The results from this phase also highlighted specific behavioural characteristics which should be further investigated including sexual behaviour, pseudomaturity, non-reciprocal behaviour, indiscriminate behaviour, being anxious or distrustful, abnormal pain, food maintenance, and self-injurious behaviour. These findings suggest that assessing behavioural characteristics in this population may be vital for better screening methods and assessment of the impact of physical abuse.

The third phase aimed to examine the lived experiences of children with ASC who experienced physical abuse. Two online qualitative survey's (one for adults with ASC who experienced childhood physical abuse, and one for parents, guardians, and caregivers of children with ASC who experienced physical abuse) were distributed through various online social media platforms as well as to charities and other organisations. As with the previous phase, participant recruitment for this study was challenging, with only three parents, guardians and caregivers responding, and 13 adults with ASC who experienced physical abuse. However, this difficulty in recruitment provided important understanding of researching vulnerable populations such as children with ASC who experienced physical abuse.

The results from this survey provided valuable insight into the experiences of this population including therapeutic needs. Participants discussed experiences surrounding their abuse and highlighted treatment needs surrounding anxiety, social anxiety, emotion regulation, and attachment. In addition, participants highlighted a need for better assessment of ASC and physical abuse. Additionally, participant experiences highlighted a lack of recommendations for treatment of ASC and abuse. Thus, further emphasising the need for a tailored intervention for this population.

The next section of this chapter will outline the key findings of each phase, following this the specific implications and recommendations created from this thesis will be discussed.

7.1.1 Discussion of key findings

Through all phases, physical abuse was found to occur with other types of abuse (e.g., sexual, emotional, or maltreatment). Though, children who experience one form of abuse typically experience other forms of abuse, those who experience physical abuse may have different needs (Finkelhor, 2018). However, these needs have not yet been addressed in research. Knowledge of these correlations then facilitates better treatment for individuals who experience this specific type of abuse. However, research surrounding children who experienced physical abuse is often performed in populations where other types of abuse are present, not controlling for the exclusive impact of each type of abuse (Christ et al., 2018). For example, Childhood Sexual Abuse has been a primary focus of childhood abuse research, consequently leaving gaps in research exploring other types of abuse (CSA; Springer et al., 2007). These gaps in research have, therefore, meant that explorations of treatments specifically for children who experienced physical abuse is scarce.

The first phase found poor outcome reporting which highlighted a need for better reporting measures, outcome definitions, and clear guidance on who should be reporting. For both reviews a number of different measures were used with a number of different individuals reporting on these measures. A study assessing parent reports versus teacher reports found that parents are more likely to report higher symptom levels and prosocial behaviours than teachers, therefore showing that the reported outcomes may not reflect an accurate depiction of the child (Murray et al., 2021). Additionally, differences in outcome definitions cause difficulties as poor outcome reporting reduces a studies internal validity, thereby causing issues in assessing the effectiveness of the intervention (Mantziari & Demartines, 2017). To date, there has been only a limited number of studies observing psychometrics within the ASC population, with each only exploring a subset of outcomes. Better reporting measures would allow for improved assessment of interventions, as well as better-quality studies.

Furthermore, the systematic review and narrative synthesis revealed that trauma-informed treatment was most utilised with children who experienced physical abuse, with attachment-based therapies being the second most utilised. Though, these types of interventions are most commonly used for this population multimodal treatments were also found to improve all outcome areas. For example, an intervention which included attachment-based, trauma-informed, and exercise and play, yielded improvements in all outcome areas, suggesting that a multimodal approach is beneficial for this population (Norton et al., 2019). These results were reflected in the scoping review on interventions for children with ASC as well, with many of the intervention approaches being multimodal. The most common approach was animal assisted therapy, which incorporated elements of psychotherapy with horse riding. However, for the scoping review, the animal assisted therapies only reported on two outcome areas, therefore it is unknown how beneficial they would be for improving all three defined outcome areas. In contrast, eclectic approaches and approaches which included CBT were found to be beneficial in all outcome areas. These findings suggest that first, research should be more transparent and consider all aspects of behaviour and emotion that can be altered. Second, a multimodal approach incorporating trauma-informed treatment, attachment-based treatment, and CBT may be beneficial for a tailored intervention for children with ASC who experienced physical abuse.

To better address treatment for this population, certain characteristics should be observed to improve screening and assessment. Previous research has developed an assessment tool for trauma investigation in the ASC population, however it does not identify the traumatic stressor experienced (Alley & Faccini, 2020; Mehtar & Mukaddes, 2011). Screening should be improved by future research by further exploring behavioural characteristics associated with ACE exposure in those with ASC. In line with the findings from the second phase, characteristics which should be considered include sexual behaviour, pseudomaturity, indiscriminate behaviour, food maintenance, anxious/distrustful behaviour, self-injurious behaviour and non-reciprocal behaviour. Moreover, these findings address a need for better screening and assessment tools for children with ASC who experienced physical abuse. Additionally, parent involvement in abuse further illustrates a need for better screening measures as parents, guardians, and caregivers were found (throughout the phases) to be most likely to be perpetrators.

In addition, phase three found that parents may perpetrate abuse due to differing cultural perspectives. For example, some participant experiences illustrated how they experienced physical abuse as a means of punishment or discipline. Indeed, it is estimated that anywhere from 65% to 94% of parents report that they spank or slap their child as a means of punishment (Holden, 2020). One important determinant for parents utilising physical punishment is their socio-cultural environment (Holden, 2020). In phase three, participants discussed the use of physical punishment specifically within Hispanic or Latinx cultures. Though parental attitudes towards using physical punishment have been viewed as acceptable in different cultures, it is important to understand the differences and implications between physical punishment and physical abuse (Holden, 2020). Physical punishment has been defined as using physical force with the intention of causing pain, but not injuring a child in order to correct or control behaviour (Holden, 2020). However, forms of physical punishment have been found to have similar negative outcomes as physical abuse (e.g., negative mental health consequences and negative developmental consequences; Durrant & Ensom, 2017; Grogan-Kaylor et al., 2018). As such, parents, guardians, and caregivers may benefit from education surrounding what constitutes as physical punishment and physical abuse, as well as education surrounding the nuanced outcomes of each. Additionally, future research should take into account cultural perspectives of physical punishment and further explore childhood perceptions of these to better understand the link between childhood physical punishment and childhood physical abuse.

Data from the third phase additionally provided useful insight into the potential use of multimodal treatment. Participants often discussed anxiety, social anxiety, along with emotional dysregulation and difficulties in building and maintaining relationships. As mentioned, CBT based interventions have been found to be effective in helping lessen anxiety and social anxiety symptoms in those with ASC (Sharma et al., 2021; Spain et al., 2017). A key component of CBT which includes talking about issues was also highlighted as helpful in participant data. CBT encourages participants to develop useful coping skills and address negative thoughts; both of which were emphasized as issues for participants in this study (Spain et al., 2017). Additionally, CBT has been shown to improve emotion regulation in children with ASC and trauma-informed CBT has been shown to be effective in improving emotion regulation for children who have experienced abuse (Thornback & Muller, 2015; Weiss et al., 2018). Though, important modifications may need to be made for children with ASC as deficits in communication skills can be a barrier. As such, incorporating social skills and techniques to address functional communication skills can be an important addition for this population. In addition to adopting CBT techniques, attachment-based components should be explored as well. Participants highlighted issues in connecting with others and in building relationships, which are foundational components in attachment-based therapies (Teague et al., 2017). Though attachment-based therapies have only been preliminarily explored in children with ASC, these types of therapy have been found to be beneficial in treating children who experienced physical abuse. As with findings highlighted in the evidence synthesis, the findings of this qualitative research highlight a need for a multimodal approach to treatment.

The results from the second and third phases highlighted the lack of recommended treatment for those with ASC who had experienced childhood abuse, with 29% of participants being recommended treatment for either abuse or ASC. These findings are not consistent with the literature, yet they are still concerning as it means over 70% of individuals were not provided with treatment options. Literature suggests that the referral rate for abuse-related treatment is much lower, suggesting that only 8% to 23% of children who have experienced abuse being referred to abuse-related treatment (Read et al., 2018). With even wider disparities on referral rates for children with ASC (Smith et al., 2020). These findings are concerning considering the well-documented negative effects of abuse and the elevated risk associated with experiencing abuse in the ASC population. In conjunction with these findings, distinctions in populations reporting of abuse was found. For example, the second phase of research found that over 50% of the adult population reported childhood abuse, whereas only 12% of the parent, guardian, or caregivers reported the child in their care experienced abuse. These distinctions may provide insight into the reasoning for low recommendations for abuse-related treatment. Abuse in children with ASC may go unrecognised by parents or caregivers as behavioural indicators of abuse are common behavioural characteristics seen in children with ASC (Kerns et al., 2015; Mehtar & Mukaddes, 2011). Additionally, children with ASC may lack the necessary communication skills to convey the abuse they are experiencing (Mehtar & Mukaddes, 2011). Indeed, a total of 35 participants, reported that their verbal skills were somewhat impacted, though no participants reported fully impacted verbal skills. Similar figures were seen from the caregiver survey (15 and 4 respectively). These factors leave children with ASC at a higher risk of experiencing prolonged abuse. As such, better screening methods are needed for this population to ensure children get the help they need.

In line with creating more comprehensive care for children with ASC, participant experiences from the third phase highlighted a need for better assessment of ASC. Participant experiences highlighted feelings of being different resulting in feeling alone, with many participants noting that they were unaware of their ASC in childhood. Those participants who were diagnosed later in life explained that they were self-referred, seeking an ASC diagnosis. Receiving a diagnosis had a positive impact on participants well-being and mental health as they were better able to understand themselves and found others who understood them. Additionally, receiving a diagnosis allowed individuals to seek out professionals who were qualified to help them. Though, receiving a diagnosis is not consequential for everyone in the ASC community, it can be a crucial step for those who are seeking help or support services. Currently, wait times for diagnosing ASC are substantial, with less than 10% of referred children in England receiving an assessment within three months (British Medical Association, 2019). These wait times can add significant strain on parents and children leaving them without necessary services. Delayed diagnosing in children can lead to other mental health conditions being undiagnosed leading to untreated anxiety or depression (British Medical Association, 2019). Important factors causing these substantial wait times is inappropriate referrals and ineffective care pathways (British Medical Association, 2019; Rutherford et al., 2018). Despite the plethora of research on ASC, there is limited research dedicated to exploring care pathways and improving them.

7.2 Implications and recommendations

This section will address specific recommendations created from the research phases discussed above.

7.2.1 Better categorisation, Assessment and Measurement.

ASC. The findings from the three phases highlighted a need for better framework for reporting and assessment of ASC. The evidence synthesis phase revealed a need for improved outcome reporting, outcome definitions, and outcome measures. First, standardised outcome definitions are needed to clearly define outcome areas. For example, some studies on ASC define cognitive characteristics as pertaining to intelligence, while others define this as executive function, attention, or working memory. Outcome areas of ASC which should be considered include behavioural, cognitive, and socio-emotional. Definitions should include exactly what constitutes as each area. For example, the definition for cognitive characteristics should include clear explanations of ASC severity (i.e. ASC levels or reduction of ASC symptoms), executive functioning, sustained attention, memory, problem-solving skills, and theory of mind. These definitions should also be created in accordance with other ASC researchers as their lived experiences can provide valuable insight. Creating standardised outcome definitions would mitigate confusion as well as allowing for more transparent research.

In addition to creating standardised outcome definitions, phase one highlighted the need of standardised outcome measures. For example, while assessing outcomes for ASC, a standardised outcome measure should be created for the following areas, behavioural characteristics, cognitive characteristics, socio-emotional characteristics, and language and communication characteristics. Currently, there are a variety of different measures used to assess outcome areas, some of which are not specific to ASC (E.g. Quality of Life scale used to assess socio-emotional or cognitive characteristics). Utilisation of differing outcome measures causes difficulty in comparing studies observing treatment. Measures should include questions which have clear and precise language as to mitigate interpretation bias. In addition, ableist language should be avoided such as ‘high-functioning’ or ‘low-functioning’ to help alleviate responding biases. Creating such standardised measures for each outcome area would improve reporting, assessment of interventions, and reliability of studies.

Another area which should be included in the framework for better reporting is clear parameters for who should be reporting. In creating standardised outcome measures, future research should account for parent, teacher, clinician, and child reports on separate measures. Parameters should be clearly defined including age limitations and appropriate persons (e.g. siblings who are primary caregivers or teaching assistants who work one to one with the child). Though using these measures in conjunction with one another will allow for more in-depth data, creating measures for different individuals will lead to better overall reporting and replicability of studies.

While the first phase indicated a need for better reporting measures for this population, the third phase further explored this and highlighted participant experiences of lack of assessments in childhood. As mentioned previously, participant experiences highlighted negative perceptions by others as a result of exhibiting nonconforming behaviours. For a majority of participants, they were unaware of their ASC in childhood and did not get diagnosed until they self-referred in adulthood. These late diagnoses can be a result of lack of identification of ASC and ineffective care pathways, leading to insufficient treatment. The current care pathways associated with receiving a diagnosis are not well explored, leaving many individuals without necessary support or treatment. To improve these care pathways, researchers must first improve research for ASC and create updated training and education services for referrers. Referrers include staff members at school (i.e. special educational needs coordinator), or a general practitioner (NHS, 2019). The experiences of participants emphasised a need for better education and training at schools as participants identified issues with teachers not recognising signs of ASC. More education on ASC and indicators of ASC would allow teachers or other members of staff to make appropriate referrals for diagnoses, leading to greater care for those who need it. Training programs should include comprehensive information on indicators of ASC, along with differences of how ASC manifests. In this training, information should be provided on indicators of ASC in different genders, risk factors associated with ASC (i.e. more likely to experience abuse, and bullying by peers), and referral information which can be relayed to parents or guardians. Training programs should also include knowledge on teacher assessments or reports, which can then be given to clinicians for diagnostic support. These training programs should be implemented by professionals with extensive knowledge of ASC who can provide in depth information on identifying children with this condition. As ASC is a prevalent in the childhood population and individuals diagnosed with ASC is rising, education surrounding ASC is vital. In addition to training programs for educators, researchers should provide more comprehensive training programs for referrers as well. As discussed, referrals for ASC are increasing leaving clinicians overwhelmed and unable to provide diagnoses and treatment for those who need it (Rutherford et al., 2018). As such, researchers exploring ASC can help to improve these care pathways by creating updated training manuals and education services for referrers to better identify ASC (Rutherford et al., 2018). Providing these updates can lead to more comprehensive care and treatment for those with ASC who need it.

Creating a better framework for reporting outcomes is crucial for future ASC research as it allows more transparency, reliable studies, and overall improved research. In addition, improved ASC research would allow for better training programs and comprehensive education for schools, leading to better care and support for individuals with ASC.

Physical Abuse. Along with better reporting of ASC outcome areas, the evidence synthesis highlighted a similar need for a better framework of reporting for children who experienced physical abuse. Though physical abuse is often experienced with other forms of abuse, research lacks clear explanations of which types of abuse are experienced by participants. The ambiguity in abuse research creates gaps in assessing characteristics associated with experiencing specific types of abuse, leading to insufficient evidence on effectiveness of treatments for abuse types. As such, research must first adopt transparency in clearly defining the experiences they are exploring. To do this, researchers should include which types of abuse they are assessing and define these types of abuse. For example, if a researcher is observing maltreatment, they should include which forms of abuse their participants have experienced (e.g. physical abuse, or physical neglect) as well as clearly defining the experience. Providing more transparency in research would allow for better assessment of abuse and its impacts, creating improved treatment for this population.

Next, the evidence synthesis phase identified a need for researchers to have standardised outcome measures. As with the findings for ASC, there was an array of outcome measures utilised for interventions for children who experienced physical abuse. Mostly, measures used for assessing Posttraumatic Stress Disorder (PTSD) were included in research. While these measures are useful in assessing PTSD, they can cause difficulty while assessing efficacy interventions and interfere with the replicability of intervention outcomes. Standardised outcome measures should include information for researchers on the precise construct and outcome area it is measuring. For example, a standardised measure created to measure emotional outcomes should include information on who the measure is for (e.g. for children who primarily experienced physical abuse, though other abuse types can be present), as well as information on the defined outcome. As with ASC, these standardised measures should include information on who should be reporting on the outcome measure (with clearly defined parameters). Creating standardised outcome measures would provide researchers with reliable identification of impacts of abuse as well as effects of interventions. These outcome measures would also improve reliability of intervention studies allowing for better knowledge of real-world implications.

The phases within this thesis identified a need for a better framework for reporting on outcomes for both ASC and children who experienced physical abuse. Creating a better framework for reporting would ensure that research provides the knowledge and assessment needed for treating this population.

7.2.2 Better knowledge, Understanding and Responding to ASC and Physical Abuse

A theme highlighted throughout all phases included responding to children with ASC who experienced physical abuse. Firstly, there is a need for better assessment of children with ASC who experienced physical abuse. Secondly, as parents, guardians, and caregivers are most likely to be perpetrators, better education of indicators and risks associated with ASC are needed. Lastly, more research is needed on indicators of abuse in this population to ensure that individuals receive the treatment and support they require.

The second phase identified that abuse is prevalent in the ASC population, though there were large discrepancies between adults with ASC reporting abuse and parents, guardians, and caregivers. As parents, guardians, or caregivers were found to most likely be perpetrators, low reports of abuse and the small sample size for the parent survey were not surprising. Though, this issue is difficult to resolve, it identifies a need for better screening measures implemented by other adults close to the children such as teachers. Better education and training are needed in schools to help ensure children receive support they need. Though, schools currently provide certain safeguard training, these practices often provide general information which might not be applicable to children with ASC. Training on ASC and abuse should include education on indicators of abuse (e.g. behavioural differences), as well as information on how to disclose abuse as children with ASC may not be able to disclose their own experiences due to language difficulties. As such, non-verbal strategies should be incorporated into training (i.e. visual, art, picture exchange communication system, or observational strategies). Adjusting screening methods to include non-verbal strategies would allow for a wider population of children with ASC to be reached. Providing these methods along with better education surrounding ASC and abuse will lead to improved identification of abuse and better care access for these children.

To improve screening of abuse within the ASC population further research is needed to explore identifying factors of abuse in this population. The second phase of this research indicated that there are significant behavioural differences in those who experience abuse and those who do not. The results from the current research highlighted specific behavioural characteristics (i.e. sexual behaviour, pseudomaturity, non-reciprocal behaviour, indiscriminate behaviour, being anxious or distrustful, abnormal pain, food maintenance, and self-injurious behaviour) which future research should further investigate. Exploring behavioural differences are key to identification of abuse for this population, particularly for those who are not able to express their experiences. In addition to providing better screening, explorations into behavioural differences would allow researchers to better provide tailored treatment for this population. Improved identification of abuse within the ASC population can also facilitate better recommending for therapeutic interventions. The second phase found that only 14 participants were recommended therapy for their abuse, whereas the third phase found virtually no recommendations by professionals. The third phase also provided insight into low recommendation rates as participants illustrated their experiences of not disclosing their abuse until adulthood. Therefore, improved screening practices may also help facilitate earlier access to treatment and support for children.

7.2.3 Develop & Evaluating Tailored intervention for ASC and Physical Abuse

Therapeutic Approaches. As indicated by the first and third phase, a tailored intervention for this population should involve multimodal treatment. First, as found in the first phase, multimodal treatment which included trauma-informed practices was beneficial for improving all outcome areas for children who experienced physical abuse. The first phase also found that children with ASC benefited from eclectic therapeutic approaches. The third phase provided more insight in the therapeutic needs of this population, supporting a need for a multimodal treatment. Participant experiences highlighted a need for an intervention which supports social anxiety, anxiety, emotional dysregulation, behavioural difficulties, and attachment difficulties. The first phase found that CBT helped improve anxiety and social anxiety. In addition, the first phase found that attachment-based therapies improved building and maintaining healthy relationships, while also improving certain socio-emotional characteristics. Trauma-informed therapies were also found to be beneficial in treating children who experienced physical abuse and improved all outcome areas. Whereas interventions incorporating elements of behavioural therapy were found to improve behavioural and cognitive outcomes in children with ASC. In addition, the third phase supported these recommendations as experiences from participants indicated issues surrounding social anxiety, anxiety, emotional regulation, and maladaptive behaviours. As such, a tailored multimodal treatment incorporating elements of behavioural therapy, CBT, attachment therapy, and trauma-informed practices should be considered in treating this population.

In addition, the third phase found that an intervention treating this population should include tailored techniques for the individual. For example, participant experiences illustrated unhelpful techniques including encouraging participants to relive their traumatic experiences, instead of discussing the impact the experience had. Conversely, other participants outlined helpful techniques as using physical approaches such as rage exercises, which allow individuals a safe space to relay their anger in a hands-on way. As such, practitioners should be knowledgeable of different approaches which can be helpful in treating ASC and abuse, and tailor sessions to client preferences. Additionally, research exploring a tailored treatment should incorporate elements of art or visual techniques, as well as play-based approaches to allow children to express themselves in physical ways.

Other tailoring modifications should be considered for children with language and communication difficulties. As this thesis did not explore these difficulties, research is urged to further investigate methods suitable for children with these characteristics.

Therapeutic relationships. Another important intervention characteristic included who was involved in the intervention. The first phase found that parental involvement specifically parent training or parent education, yielded improved outcome areas. Though, parental involvement in trauma interventions has been contested throughout research with some researchers discussing parental involvement as a necessity and others viewing it as non-important (Dorsey et al., 2017). However, the current research found that parental involvement improved outcome areas for children with ASC. As such, research should consider including a parent education programme in a tailored intervention for this population. Specifically, the parent education programme should include parent education and training on specific techniques involved in therapy. Involving parent training would also help with consistency of intervention techniques, allowing children to apply practices in their daily life. For example, techniques on co-regulating with children or helping children identify and cope with emotions in daily life would be beneficial. In addition to parental involvement, involvement of staff members at school were found to be beneficial in ASC interventions. As such, training programmes for staff members who work closely with these children should be implemented.

7.2.4 Researching and responding to ASC Populations

First, there were difficulties in reaching the target population as charities or other organisations often only promote research funded by or in partnership with their organisation. While this form of gatekeeping allows organisations to conduct research in line with their own interests, it may also steer research agendas away from research that is significant for the public (Fabbri et al., 2018). It has also been suggested that gatekeepers of large organisations overlook research opportunities as they are only a small part of their responsibilities (Borschmann et al., 2014). Though without being able to enact institutionalised change, researchers must be able to find other means of recruiting participants. One such way, is participatory research. This approach focuses on community perspectives (Vaughn & Jacquez, 2020). For the current research, involving members of the ASC community, as opposed to funded organisations, proved useful as the current research incorporated ASC researchers in screening of surveys and utilised online platforms dedicated to those with ASC. Online platforms for the ASC community were seen to engage the most participants as well as allow individuals the opportunity to directly voice concerns or comments to the researcher. Moreover, providing opportunity for online discussions has been found to be a driving factor for individuals with ASC participating in research (Haas et al., 2016). As such, participatory approaches should be utilised and explored more in research observing this population.

Second, information given on the study may have influenced participant responding. The study was advertised as an exploration of the prevalence of ACEs in the ASC population, respondent progress on Online Surveys showed that 920 individuals for parents, guardians, and caregivers and 649 adults with ASC viewed the information sheet. Though, the factors discussed above may have influenced individuals not to continue, some individuals may have felt as though the study did not apply to them. Research shows that participation is motivated by the opportunity to benefit, including the opportunity to benefit oneself or one's community (Haas et al., 2016). For the current research, potential participants may have been deterred due to feeling as though they would not have been able to add beneficial information for the study. With this, researchers should be diligent with information sheets as to not allow for too much information to skew the data, yet also include clear parameters and knowledge of the study.

For researchers exploring ASC, including individuals with ASC in the creation of their research and information sheets may be helpful. Including individuals with ASC would allow researchers to get first-hand knowledge into how the research is being interpreted and how to amend research to be more inclusive. First-hand experiences with ASC are crucial for ASC research as most previous research exploring ASC has been performed by nonautistic individuals, thus shaping the field to fit the ideals of those who do not have first-hand knowledge of ASC (Dwyer et al., 2021). For future research, experts by experience should be included in each step of the research project phase. For example, including autistic researchers or other experts by experience in the initial planning phases of the research would allow for researchers to form research projects which benefit the autism community, rather than benefiting stakeholders or members of other communities. Additionally, experts by experience would allow for more accessible methods of data collection which may potentially lead to better participant recruitment and overall better data (e.g. less bias data due to mitigating ambiguous questions). Including experts by experience could also allow for deeper interpretation of data, particularly qualitative data, which allows for more inclusive and thorough explanations. Future researchers should consider collaborating with experts by experience in creating their research. For example, researchers wishing to explore issues within the ASC community could provide an online discussion or survey regarding what issues the community feels are most important. Additionally, researchers could include experts by experience in the creation stages by asking them to help collaborate on questionnaires, or interview schedules. For the current research, as mentioned, ASC researchers were involved in the creation of surveys. This proved to be insightful into how individuals with ASC may view the research. Including ASC researchers also allowed the current researcher to expand their knowledge on how to better engage ASC communities for research. As such, researchers are urged to include more researchers with ASC in their studies as well as consult with researchers with ASC to improve research practices involving this population.

Next, both the second and third phase found that parents, guardians, and caregivers were less likely to respond to surveys which mentioned abuse. Though this research found parents were found more likely to be perpetrators, there are also a myriad of factors involved in reluctancy to participate in research which involves abuse. One factor which has been inadequately researched in parents, guardians, and caregivers is abuse stigmatisation which often results in feelings of shame or guilt, creating barriers in discussing experiences of which the stigma is attached (McElvany & Nixon, 2020; Schomerus et al., 2021; Svensson et al., 2023). To date, there is only one study observing caregiver abuse stigmatization and its effects on treatment, finding that abuse stigmatisation was correlated with negative views on therapy (i.e. seeing therapy as less relevant, more emotionally and cognitively consuming, and more problematic for individual or family stressors) which may reflect on attitudes even discussing treatment needs (Simon et al., 2017). As abuse stigmatisation leads to a reluctancy to discuss experiences and seek help, children who experience abuse may not be receiving the help they need and targeted efforts to reduce stigmatisation are vitally important for this population. As such, a recommendation for this research is to include more participatory research, including parents, guardians, and caregivers of children with ASC who experience physical abuse in the research design process. Including parents, guardians, and caregivers would provide a unique opportunity to modify language to reduce stigmatisation, while also providing a sense of community for parents who may feel isolated.

This research found other obstacles involved in recruiting participants of a vulnerable population. Most notably for the current research phase, length of the survey. For the current research, each survey took approximately 30 minutes to complete with an additional 15 minutes if the participant had experienced abuse. For some participants, time constraints may have deterred them from taking part in the survey. In a study observing factors involved in research participation for adults with ASC, 60% of participants reported concern of having sufficient time to complete surveys, with 65% of carers citing this concern as well (Haas et al., 2016). In addition, concentration issues have been noted for adults with ASC which may add to extended concern of completing an online survey (Haas et al., 2016). Researchers exploring this population should take these issues into account by providing smaller sections which can be completed over a longer period (Haas et al., 2016). To mitigate constraints for researcher's time, researchers can institute notice periods or reminders for participants to finish the survey within an allotted amount of time. Additionally, researchers could include the option for participants to save information and continue at a later time. For the current research, this option was available, though data from the survey did not record whether this option was utilised. As length of study may be a mitigating factor for participation in research, those exploring this population are urged to include options which allow for continuation at a later date.

Other barriers for this population concern cognitive styles (Haas et al., 2016). For some participants, language used in surveys or assessments can cause difficulty in understanding what the question is asking. As such, providing opportunities to clarify questions or adapting language in the survey as well as in advertisements and information sheets can be useful (Haas et al., 2016). The current research also adopted this approach as online posts allowed for participants to ask questions about the research. In addition, the researcher's email was provided to all participants, as well as a statement outlining that participants could contact the researcher with any issues or questions. Providing participants with these options may help in the recruitment process as it may help participants feel more comfortable with the research in which they are participating. Researchers exploring vulnerable populations should incorporate such approaches into their research to better facilitate a relationship between participant and researcher. In addition, allowing participants to ask questions may help future research projects as it provides insight into the target population.

Akin to cognitive styles, another barrier could be verbal skills. As around 25% to 30% of the ASC community have reduced or no verbal skills, it is important to consider accessible research for this population (Brignell et al., 2018). One such way, is to include more participatory research for parents, guardians, and caregivers of children with ASC who have impacted verbal skills. Including parents, guardians, and caregivers can provide opportunity for researchers to understand ways of reaching this population which can further improve research for this population. In addition, including more parent participatory research can help improve researchers' knowledge on exploring experiences of this population. In turn, improving physical abuse research on this population.

7.3 Translating the evidence: Logic model

As discussed in Chapter Three, implementation science is a new field centred around successful and consistent implementation of evidence-based interventions (Handley et al., 2016). Implementation science specifically, focuses on the method, design, and evaluation of evidence-based interventions (Handley et al., 2016). Translation of research to practice has been identified as one of the major underlying reasons for a lack of implementation of proposed interventions (Fernandez et al., 2019; Handley et al., 2016). In order to mitigate this issue, implementation science emphasises the significance of translating evidence clearly and transparently (Fernandez et al., 2019; Handley et al., 2016). As this thesis gained insight into the experiences and therapeutic needs of autistic children who experienced physical abuse to inform a future intervention, it was vital to provide clear evidence for translation. As such, an overview of evidence and how it can inform a future intervention was given at the end of each phase of this thesis. This section will, first, provide an overview of what was found in each phase. Then an integrated outline of the evidence gathered across the research and subsequent recommendations on how the evidence can be translated to inform a future intervention will be provided (see table 7.1).

In the first phase, the evidence synthesis was performed to assess the current state of evidence, assess therapeutic needs and best evidence and practice for improved outcomes for children who experienced physical abuse and children with ASC. This phase identified three core areas in relation to intervention design. First area identified was knowledge around current symptomology for both children with ASC and children who have experienced physical abuse, then, insight into theoretical approaches and models associated with symptom reduction, and lastly, target populations in best supporting autistic children who have experienced abuse.

The second phase of research was carried out to quantitatively assess the prevalence of ACEs and their associated characteristics within the ASC population. This phase identified two core areas, including knowledge around current symptomology for children with ASC who experienced physical abuse, and insight into prevalence of abuse and associated characteristics in children with ASC. Within these two core areas, insight into other target populations was also provided.

The third phase was a qualitative study which aimed to provide insight into the lived experiences of children with ASC who experienced physical abuse. For this phase, two core areas were identified including, knowledge around current issues, including symptomology for children with ASC who experienced physical abuse, and insight into other target populations.

Across the three phases of research, two core areas were drawn out in relation to best evidence and possibilities for intervention design. Specifically, these were;

- Knowledge around symptomology and associated characteristics of abuse for children with ASC who experienced physical abuse,
- Identification of target populations in best supporting autistic children who have experienced abuse,

Below, possibilities surrounding theories, approaches and possible practical techniques will be integrated within the discussion of each core area. Specifically, the core areas deemed important resources and inputs for intervention design, will be outlined and discussed in relation to the specific models, or intervention characteristics showing promise in achieving changes among primary and secondary outcomes.

The logic model contains five columns (four columns are labelled in Sections as A, B, C, D, respectively). Sections A, B, and C highlight the key resources that can inform the bases of an intervention. Section A highlights the inputs or needs that were generated from the knowledge in this thesis. Section B highlights the possible theories or assumptions which can be used to inform a future intervention, these were created from the current evidence base. Section C illustrates the suggested target populations, generated from the inputs. Finally, section D outlines specific intervention characteristics or strategies that show promise.

This section will now move on to discussing each core area in line with the logic model, demonstrating how the phases inform each of its facets.

Knowledge around symptomology and associated characteristics of abuse for children with ASC who experienced physical abuse

Firstly, children with ASC who experienced physical abuse were identified as a target population throughout all of the phases. As seen in Section A needs for this population were identified as externalising behaviours, anxiety, social anxiety, emotion regulation, and depression. For these inputs, a potential output of individual face-to-face, one-to-one sessions has been included in the logic model (seen in section D). In phase one, the current evidence base suggests that individual face-to-face, one-to-one sessions are the most common mode of delivery for this population. As such, individual face-to-face, one-to-one sessions have been added as an output in section D. Including these types of sessions may create a mechanism of change as these sessions can provide trauma-informed care and individualised psychological care which allows children to understand their individual experiences of physical abuse and ASC (see section E). Trauma-informed care has been shown to be effective in treating individuals with history of trauma, including physical abuse (Menschner & Maul, 2016). This type of care allows for providers to individualise treatment for the needs of patients and emphasises patient empowerment, choice, collaboration, safety, and trustworthiness (Menschner & Maul, 2016). Through utilising trauma-informed care, targeted primary outcomes include improved psychological well-being (i.e. depression, anxiety, and subjective well-being) and improved quality of life (see section F).

In addition to incorporating trauma informed care, phase one found that CBT was an important theoretical approach to incorporate in treatment, as both reviews identified CBT as beneficial in treating anxiety and social anxiety (see section B). Another approach which was identified in phase one, was an eclectic approach including behavioural therapy. Incorporating behavioural therapy may improve outcomes by providing functional communication training which enables verbal and non-verbal communication, using social stories to help daily living skills and transitions through priming, and enhance play skills through modelling techniques (see section E). As such, incorporating CBT and behavioural therapy into individual face-to-face, one-to-one sessions may improve outcomes through primary outcomes which have been identified for assessment include, improved self-regulation, leading to more resilience, improved stress response, improved emotional response, and improved maladaptive behaviours (see section F).

Phase two highlighted that children with ASC who experience abuse exhibited higher rates of certain behavioural characteristics (i.e. sexual behaviour, pseudomaturity, insecure, anxious/distrustful, food maintenance, self-injurious, indiscriminate behaviour; see section A). Though, as discussed in chapter 6, these behavioural characteristics overlap with characteristics seen in ASC, leading to difficulty in identifying abuse in children with ASC (Mehtar & Mukkades, 2011). Subsequently, phase three also identified a need for understanding and validation of experiences surrounding physical abuse (see section A). As such, separate caregiver, teacher and school staff, child, and clinician workshops have been included as a potential output (see section D). These workshops can help to facilitate knowledge, understanding, and recognition of physical abuse for caregivers, teachers and clinicians. Whereas the child workshop can help to facilitate understanding and recognition of physical abuse. Outcomes of these workshops for caregivers, school staff, and clinicians include knowledge, understanding, and recognition of physical abuse, as well as secondary outcomes of likeliness to report physical abuse (see section F).

The third phase identified a lack of normative social skills, difficulties in relationships, and need for community (see section A). As discussed in chapter 7, children with ASC and children who experienced physical abuse often struggle with social skills, social inclusion, and social anxiety (Pfaltz et al., 2022; Liu et al., 2023). However, group based social skills training has been seen to be effective in increasing learned skills about social behaviour for children with ASC (Gates et al., 2017). As such, a potential output includes face-to-face, intermittent group sessions for children (see section E). Incorporating intermittent group sessions could affect children's primary outcomes by improving social skills (e.g. improving social awareness, social cognition, social communication, and social motivation), as well as improve secondary outcomes such as social identity, and feelings of loneliness (see section F).

Next, tailoring which can be made to accommodate verbal skill level for children with ASC who experienced physical abuse was identified as an input (see section A). As mentioned, 25% to 30% of individuals with ASC are minimally verbal or nonverbal

(Brignell et al., 2018). As such, an important output includes specific tailoring to child's verbal skill, and face-to-face speech and language therapy sessions. Implementing specific tailoring to child's verbal skills and face-to-face speech and language therapy sessions could improve primary outcome of communication and language, as well as improved psychological health and well-being, and improved quality of life, as well as secondary outcomes of improved maladaptive behaviours. To facilitate change, tailoring to child's specific verbal skills includes use of iPad apps such as proloquo, using picture exchange communication system, and utilising a letter board. Whereas face-to-face speech and language therapy would facilitate more functional communication and language which will help to improve verbal skills (see section E).

Target populations in best supporting autistic children who have experienced abuse

The importance of caregiver involvement in sessions was highlighted across phases. First, the evidence synthesis revealed that in certain interventions caregivers were taught techniques and management strategies which helped to improve all outcomes assessed. However, phase two and three identified that caregivers are most likely to be perpetrators. As such, practitioner guided parent-child sessions are a potential output (see section D). To inform guided parent-child sessions, The Good Lives Model should be included, attachment-theory, and trauma-informed care should be considered (see section B). First, The Good Lives Model primarily focuses on rehabilitation of sexual offenders, though certain techniques such as empathy training, and emotion regulation can be incorporated for caregivers who are perpetrators of physical abuse (Ward et al., 2007). Second, attachment-theory outlines the importance of secure attachment for children and caregivers and could be used to inform practitioner guided parent-child sessions (Bowlby, 1969). Practitioner guided parent-child sessions can help parents to understand their child's experiences, learn about their child's symptomology and learn management techniques (see section E). Through further understanding child experiences, child symptomology and learning management techniques, parents can help improve primary outcomes of depression, anxiety, and subjective-well-being, as well as secondary outcomes of improved child quality of life and child attachment (see section D, E, and F).

As the importance of parent involvement was emphasised, practitioner guided goal setting for child and caregiver has been identified as a potential output (see section D). Goal setting can be a useful tool for children with ASC and can help with an array of different issues (Carr, 2014). The needs highlighted for practitioner guided goal setting for children and caregivers include emotion regulation, anxiety, depression, maladaptive behaviours, and self-injurious behaviours (see sections A). Practitioner guided goal setting for children and caregivers can facilitate change through goal setting, skills-building, motivation, and utilising a family approach to help improve psychological health and well-being, as well as executive function and secondary outcomes such as improved maladaptive behaviours (see section F).

Phase three additionally highlighted participant experiences feeling different and needing validation and understanding of ASC experiences (see section A). As such, target populations of caregivers, children, teachers and school staff, and clinicians were identified. Workshops for children were identified as a potential output to help children understand and accept ASC. Evidence suggests that acceptance of ASC can improve psychological well-being, as well as self-identity and self-concept (Cage et al., 2018; Corden et al., 2021). As such, primary outcomes for children include understanding ASC, improved self-concept and improved quality of life (see section 3F). In addition, parental acceptance of their child’s ASC has been found to be beneficial for the parent as it promotes better well-being (Weiss et al., 2012). Therefore, parent workshops could facilitate knowledge, understanding, and acceptance of ASC. With primary outcomes for caregivers including caregiver understanding of ASC, knowledge of ASC, acceptance of ASC, improved psychological health and well-being, and improved parent quality of life (see section F). Additionally, phase one found that teacher and school staff involvement helped to improve outcome areas. One possible reason is teachers were better educated on ASC, as evidence suggests teacher understanding of ASC can facilitate more sufficient care in education settings (Gomez-Mari et al., 2021). As such, teacher workshops are included as a potential output, to facilitate better understanding and recognition of ASC (see sections D and E). Outcomes for teachers include, understanding of ASC, and recognition of ASC. Caregiver and teacher workshops could subsequently influence primary child outcomes, as children could feel more accepted and validated.

Subsequently, clinicians were identified as a target population for the input of need for understanding and validation of ASC experiences as well. Evidence suggests that healthcare professionals report only moderate levels of knowledge of ASC, and commonly lack training (Corden et al., 2022). As such, clinician workshops could be a potential output (see section D). Clinician workshops would provide understanding and recognition of ASC in children, with outcomes of understanding of ASC and recognition of ASC (see section F).

Table 7. 1

Logic Model

Input, 'needs' that this thesis will generate or identify (Section A)	Possible Theories and Assumptions (Section B)	Suggested Target populations (Section C)	Potential Outputs relevant for Intervention Design (Section D)	Mechanisms of/For Change (Section E)	Potential Outcomes to be targeted and/or assessed (Section F)
Knowledge that: Children who experienced physical abuse struggle with the following symptomology: -Externalising behaviours (phase 1, 2, 3) -Anxiety symptoms (phase 1 and 3) -Depressive symptoms (phase 1 and 3) -Emotion regulation (phase 1 and 3) -Validation of experiences (phase 3) -Dysfunctional attachment (phase 3) Children with ASC who experience physical abuse struggle with the following symptomology: -Social anxiety (phase 1 and 3 -Emotion regulation -Depressive symptoms (phase 1 and 3) -Executive functioning (phase 1) -Emotion regulation (phase 1 and 3) -Self-injurious behaviours (phase 1 and 2) -Maladaptive behaviours (phase 1,2,3)	-Attachment Theory (phase 1 and 3) -Emotional Regulation (phase 1 and 3) -Behavioural theory (phase 1 and 3) -Experiential Education (phase 1) -Trauma-Informed care (phase 1 and 3) -Cognitive-Behavioural Therapy (phase 1) -Behavioural therapy (phase 1) -The Good Lives Model (phase 1 and 3) -Dialectical Behavioural Therapy (phase 3) -Social Identity theory (phase 3) Theory of revictimization (phase 2)	- Children with ASC who experienced physical abuse (phase 1,2,3) -Parents of children who experienced physical abuse and children with ASC (phase 1,2,3) -Teachers and school staff of children who experienced physical abuse and children with ASC (phase 1,2,3) -Clinicians who assess abuse within children with ASC (phase 1,2,3)	-Individual face-to-face one-to-one sessions with child (phase 1, 3) -Specific tailoring to child's verbal skill level (phase 1,2) - Face-to-face Individual Speech and language therapy (phase 1 and 3) - Face-to-face Individual Behavioural therapy (phase 1) -Intermittent group sessions (phase 1 and 3) -Practitioner	-Allows for trauma-informed understanding of individual's experiences and individualised psychological care (For children; phase 1 and 3) -Use of iPad apps (e.g. proloquo), Use of picture exchange communication system, Use of letter board (phase 1 and 2) -Facilitates more functional communication and language, improves verbal skills(phase 1 and 3) - Activities including functional communication training enabling verbal and non-verbal communication, social stories to help transitions and daily living skills through priming, practicing daily living skills and play skills through modelling (phase 1) - Roleplay and goal-oriented workshops surrounding social skills. (phase 1 and 3) -Facilitates social skills and community relationship building (phase 3) -Facilitates goal	**For children with ASC who experienced physical abuse:** Primary outcomes: -Understanding ASC (phase 3) -Understanding physical abuse (phase 3) -Recognising physical abuse (phase 2) -Improved psychological health and well-being, including; - Depression - Anxiety - Subjective well-being -Improved quality of life -Improved attachment -Improved communication and language -Improved executive functioning including (as measured by the Behaviour Rating Index of Executive Functioning; phase 1): -Working Memory (phase 1) -Problem solving skills (phase 1) -Attention (phase 1) -Task regulation (phase 1) -Improved social skills, relating to (as assessed by the Social Responsiveness Scale; phase 3): -Social awareness (phase 3) -Social cognition (phase 3) -Social communication (phase 3) -Social motivation (phase 3) -Improved Self-concept (Assessment through the Self-Concept and Identity Measure) - Self-esteem (phase 3) - Self-Identity (phase 3) Secondary Outcomes: -Improved self-regulation (phase 1 and 3) -More resilience (phase 3) -Improved stress response (through social-coping, or identification of appropriate self-regulating techniques such as, breathe work, counting, removing self from stressful situation; phase 1 and 3) -Improved emotional response (such as, theory of mind; phase 1 and 3) -Improved understanding of experiences (phase 3) -Improved social anxiety (phase 1

Table 7.1 (cont.)

-Tailoring can be made for non-verbal or those with impacted verbal skills (phase 1) -Caregivers facilitate improvements in			with child and caregiver (phase 1 and 3) -Practitioner guided Parent-child	motivation, and a family approach (phase 1 and 3) -Facilitates parent understanding of child's	abuse (phase 2) -Improved social identity (as assessed by The Group Identities Scale; phase 3) -Improved social relationships (phase 3) -Improved feelings of loneliness (phase 3)

the above areas (phase 1) -Teachers and school staff(including teachers and teaching assistants) facilitate improvements in the above areas when involved in interventions (phase 1) -High prevalence of abuse within ASC community (phase 2) -Behavioural characteristics associated with ASC and abuse (i.e. sexual behaviour, pseudomaturity, insecure, anxious/distrustful, food maintenance, self-injurious, indiscriminate behaviour; phase 2) -Characteristics of ASC associated with abuse (i.e. higher prevalence of abuse with impacted verbal skills and daily living skills; phase 2) -Lack of recommendations for treatment for abuse and ASC (phase 2 and 3) -Feeling different (phase 3) - Need for understanding the self (phase 3) -Need for community (phase 3) -Need for understanding and validation of experiences of ASC (phase 3) -Lacking normative social skills (phase 3) -Difficulty in relationships (phase 3) -Living in fear (phase 3) -Need for understanding and validation of experiences of physical abuse (phase 3)		sessions (phase 1) -Caregiver Workshops (phase 1, 2, 3) -Teacher and school staff workshops (phase 1,2,3) -Clinicians workshop (phase 1,2,3) -Emotional release tools (e.g. rage exercises, role play exercises; phase 3)	experiences (phase 1) -Provide parents with improved education on their child's symptomology (specific to autism and physical abuse) and management techniques to use outside of sessions (phase 1) -Facilitating knowledge, understanding, and recognition of physical abuse (phase 1, 2, 3) -Facilitates acceptance of ASC and physical abuse (phase 3) -Provide education to teachers/school staff on ASC and physical abuse (phase 1) - Facilitating knowledge, understanding, and recognition of physical abuse and ASC (phase 1,2,3) -Facilitating knowledge, understanding, and recognition of physical abuse (phase 1,2,3) -Facilitates adaptive coping mechanisms (phase 3)	**For Caregivers of children with ASC who experienced physical abuse:** Primary outcomes: -Understanding of child's symptomology (phase 1) -Understanding of management techniques (phase 1) -Use of management techniques (phase 1) -Acceptance of ASC (phase 3) -Acceptance of Physical abuse (phase 3) -Improved child psychological health and well-being, including; -Depression (phase 1) -Anxiety (phase 1) -Subjective well-being (phase 1) -Improved child quality of life (phase 1 and 3) -Improved child attachment (phase 1 and 3) -Improved social skills of child (phase 1 and 3) -Improved executive functioning of child including (as measured by the Behaviour Rating Index of Executive Functioning; phase 1) Improved parent psychological health and well-being, including; -Anxiety (phase 3) -Depression (phase 3) -Subjective well-being (phase 3) -Improved parent quality of life (phase 3) Secondary outcomes: Improved child behaviour (phase 1) -Meltdown behaviour (phase 1) - Maladaptivebehaviour (phase 1) -Improved social anxiety (phase 1 and 3) -Improved child relationships (phase 3) -Improved child emotional regulation (phase 3) **For teachers/school staff who work with children with ASC who experienced physical abuse:** Primary outcome: -Knowledge and understanding of ASC (phase 1 and 3) -Knowledge and understanding of physical abuse (phase 1,2,3) -Acceptance of ASC (phase 3) -Acceptance of physical abuse (phase 3) -Improved child attachment (phase 1) - Improved social skills of child, relating to (as assessed by the Social Responsiveness Scale; phase 3) Secondary outcome: -Likeliness to report physical abuse (phase 2) -Improved child behaviour (phase 1) - Meltdown behaviour (phase 1) - Maladaptive behaviour (phase 1) -Improved child self-regulation (phase 1) - Improved emotional response (phase 1)

Issues surrounding physical abuse: -Poor assessment (phase 1 and 3) Issues surrounding ASC: -Poor assessment (phase 1 and 3) More participatory research: -Patient-centred outcome research - The formation of an expert by experience stakeholder group	- Improved social coping (phase 1) -Improved child social relationships (phase 3) -Improved child social anxiety (phase 3) **For clinicians:** Primary outcome: -Knowledge and understanding of ASC (phase 1,2,3) -Knowledge and understanding physical abuse within ASC (phase 1,2,3) -Recognising ASC (phase 3) -Recognising physical abuse within ASC (phase 3) Secondary outcome: -Likeliness to report physical abuse (phase 2)

The chapter provided an overview of results from each research phase of this thesis, including summarised results from, a systematic review and narrative synthesis on interventions for children who experienced physical abuse, a scoping review on interventions for children with ASC, a quantitative study exploring ACEs in the ASC population, and a qualitative study exploring the experiences and therapeutic needs of children with ASC who experienced physical abuse. Recommendations for future research were then provided corresponding to each research phase. Finally, recommendations were discussed in conjunction with each phase and a logic model was presented for a tailored intervention for children with ASC who experienced physical abuse. This thesis will now move on to present a reflexivity chapter.

Chapter Eight: Reflexivity chapter

I received an undergraduate degree in psychology from California State University, Chico. In this time, I volunteered at a primary school working one to one with a child with a learning disability. In my time at university, I was diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD). After graduating from university, I worked as a behavioural interventionist doing Applied Behavioural Analysis therapy (ABA), with autistic children for two years. In doing ABA therapy, I worked with individuals with ASC of all ages, from 18 months to 23 years old. After six months, I became a Board Certified Autism Technician and continued to gain more responsibilities. One responsibility included helping to create individualised behaviour intervention plans. In this, I would identify new behaviours and possible causes of behaviours in line with ABA practices. I would then work with my supervisor to create an individualised plan of treating these behaviours. In addition to identifying behaviours and creating treatment plans, I worked with parents and caregivers to provide education on management techniques and education on their child's needs. Whilst working in the field I learned more about ASC and how it overlaps with symptoms of ADHD. I felt as though my ADHD was a major asset in understanding children with ASD.

While working in the field, I became close with one of my client's family. My client had experienced multiple forms of abuse, including physical abuse at their school. In working with this client, I had to modify many techniques that are commonly used in ABA and tailor the treatment to their needs and their family's needs. Furthering working in the field, I worked with client's who experienced physical abuse from their parents, siblings, or teachers. In these cases, my supervisor and I had to make reports to child protective services and be present at certain investigations into the claims. Working with these children made me realise that ABA may not be the best practice for children with ASC who experienced abuse. In addition, I came to realise that I did not agree with all of the techniques utilised in ABA. After two years of doing ABA therapy, I decided to pursue higher education in the goal of receiving a PhD one day. I left ABA and moved to England to pursue a masters in psychology at the University of Gloucestershire.

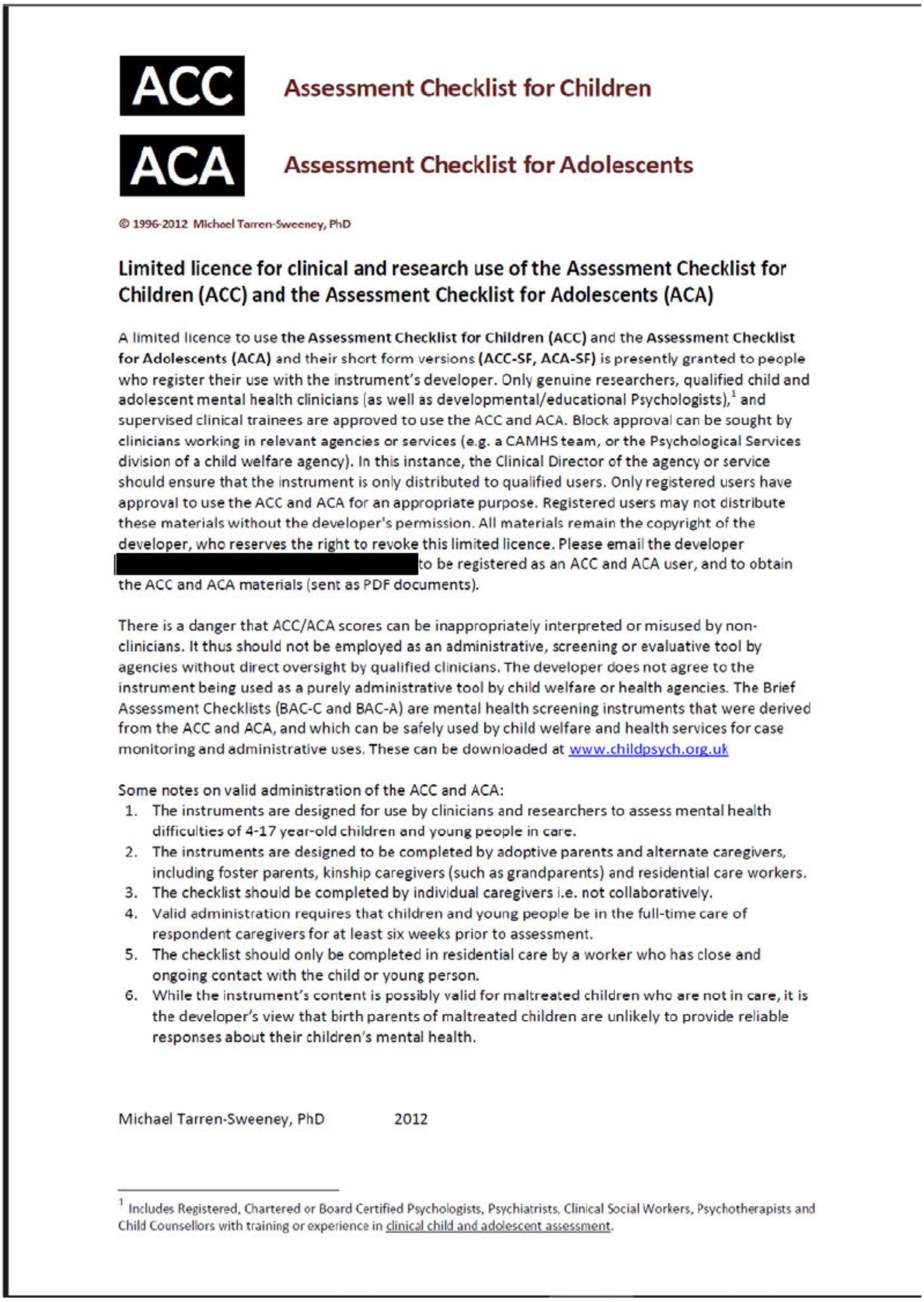
Upon finishing my master’s, I applied for a PhD through the University of Gloucestershire. In pursuing my PhD, I began therapy to help manage my ADHD and associated symptomology. In my time of working in therapy, I explored experiences of difficulty in relationships and social settings, as well as difficulties in other aspects of my life as a result of experiencing trauma in my childhood. My time in therapy has helped me to learn to regulate emotions, cope with stressful situations, cope with depression, anxiety and panic attacks. Engaging with therapy has also allowed me a lived experience of treatment for trauma and neurodivergence. As such, experiences with treatment, trauma, neurodivergence and training of ABA therapy may have influenced my decisions and research for this thesis.

Concluding remarks

This thesis explored the experiences and therapeutic needs of autistic children who experienced physical abuse using a mixed methods approach. First, this thesis provided background on Adverse Childhood Experiences, physical abuse, and Autism Spectrum Condition, as well as information on implementation science. Next, an overview of the philosophical debate within psychology was provided. Additionally, it positioned each research phase within phenomenology and critical realism. Third, an overview and history of mixed methods research was provided, as well as an overview of implementation science and intervention mapping. In addition, the methodology for the current research was outlined and contextualised within implementation science. Fourth, an evidence synthesis was provided on current interventions for children with ASC and children who experienced physical abuse. From this, knowledge was generated around the current evidence base on interventions and information from this phase was outlined in relation to a logic model which could inform a future intervention for children with ASC who experienced physical abuse. Fifth, the quantitative phase provided evidence of ACEs and associated characteristics within the ASC population. The evidence from this phase was then discussed through two core areas which helped to inform the logic model. The evidence from this phase included symptomology of individuals with ASC who experienced abuse and possible target populations for a future intervention. Sixth, qualitative evidence on the experiences of autistic individuals who experienced childhood physical abuse was provided. The qualitative phase offered knowledge of symptomology and issues associated with ASC and physical abuse, as well as possible target populations. Then, this thesis provided a chapter on the implications and recommendations for future research exploring autistic children who experienced physical abuse. Lastly, this thesis provided a logic model informed by each phase which could be used to inform a future tailored intervention for children with ASC who experienced physical abuse.

Appendix A

ACC-SF license



ACC Assessment Checklist for Children

ACA Assessment Checklist for Adolescents

Limited licence for clinical and research use of the Assessment Checklist for Children (ACC) and the Assessment Checklist for Adolescents (ACA)

A limited licence to use **the Assessment Checklist for Children (ACC)** and the **Assessment Checklist for Adolescents (ACA)** and their short form versions **(ACC-SF, ACA-SF)** is presently granted to people who register their use with the instrument's developer. Only genuine researchers, qualified child and adolescent mental health clinicians (as well as developmental/educational Psychologists),[1] and supervised clinical trainees are approved to use the ACC and ACA. Block approval can be sought by clinicians working in relevant agencies or services (e.g. a CAMHS team, or the Psychological Services division of a child welfare agency). In this instance, the Clinical Director of the agency or service should ensure that the instrument is only distributed to qualified users. Only registered users have approval to use the ACC and ACA for an appropriate purpose. Registered users may not distribute these materials without the developer's permission. All materials remain the copyright of the developer, who reserves the right to revoke this limited licence. Please email the developer [redacted] to be registered as an ACC and ACA user, and to obtain the ACC and ACA materials (sent as PDF documents).

There is a danger that ACC/ACA scores can be inappropriately interpreted or misused by non-clinicians. It thus should not be employed as an administrative, screening or evaluative tool by agencies without direct oversight by qualified clinicians. The developer does not agree to the instrument being used as a purely administrative tool by child welfare or health agencies. The Brief Assessment Checklists (BAC-C and BAC-A) are mental health screening instruments that were derived from the ACC and ACA, and which can be safely used by child welfare and health services for case monitoring and administrative uses. These can be downloaded at www.childpsych.org.uk

Some notes on valid administration of the ACC and ACA:

1. The instruments are designed for use by clinicians and researchers to assess mental health difficulties of 4-17 year-old children and young people in care.
2. The instruments are designed to be completed by adoptive parents and alternate caregivers, including foster parents, kinship caregivers (such as grandparents) and residential care workers.
3. The checklist should be completed by individual caregivers i.e. not collaboratively.
4. Valid administration requires that children and young people be in the full-time care of respondent caregivers for at least six weeks prior to assessment.
5. The checklist should only be completed in residential care by a worker who has close and ongoing contact with the child or young person.
6. While the instrument's content is possibly valid for maltreated children who are not in care, it is the developer's view that birth parents of maltreated children are unlikely to provide reliable responses about their children's mental health.

Michael Tarren-Sweeney, PhD 2012

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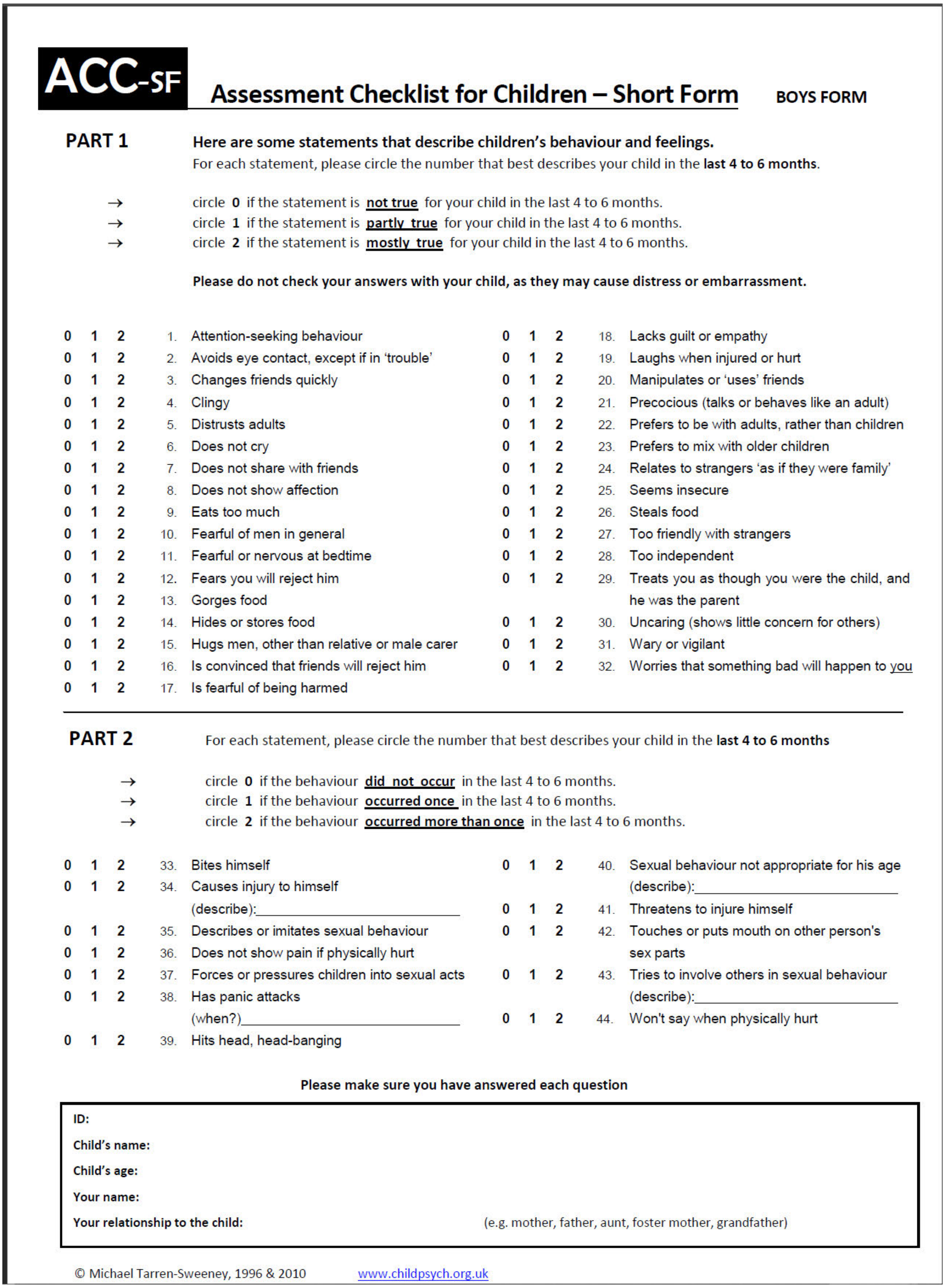
[1] Includes Registered, Chartered or Board Certified Psychologists, Psychiatrists, Clinical Social Workers, Psychotherapists and Child Counsellors with training or experience in clinical child and adolescent assessment.

Appendix B

ACC-SF



ACC-SF **Assessment Checklist for Children – Short Form** **BOYS FORM**

PART 1

Here are some statements that describe children's behaviour and feelings.

For each statement, please circle the number that best describes your child in the **last 4 to 6 months**.

→ circle **0** if the statement is **not true** for your child in the last 4 to 6 months.
→ circle **1** if the statement is **partly true** for your child in the last 4 to 6 months.
→ circle **2** if the statement is **mostly true** for your child in the last 4 to 6 months.

Please do not check your answers with your child, as they may cause distress or embarrassment.

0 1 2 1. Attention-seeking behaviour
0 1 2 2. Avoids eye contact, except if in 'trouble'
0 1 2 3. Changes friends quickly
0 1 2 4. Clingy
0 1 2 5. Distrusts adults
0 1 2 6. Does not cry
0 1 2 7. Does not share with friends
0 1 2 8. Does not show affection
0 1 2 9. Eats too much
0 1 2 10. Fearful of men in general
0 1 2 11. Fearful or nervous at bedtime
0 1 2 12. Fears you will reject him
0 1 2 13. Gorges food
0 1 2 14. Hides or stores food
0 1 2 15. Hugs men, other than relative or male carer
0 1 2 16. Is convinced that friends will reject him
0 1 2 17. Is fearful of being harmed
0 1 2 18. Lacks guilt or empathy
0 1 2 19. Laughs when injured or hurt
0 1 2 20. Manipulates or 'uses' friends
0 1 2 21. Precocious (talks or behaves like an adult)
0 1 2 22. Prefers to be with adults, rather than children
0 1 2 23. Prefers to mix with older children
0 1 2 24. Relates to strangers 'as if they were family'
0 1 2 25. Seems insecure
0 1 2 26. Steals food
0 1 2 27. Too friendly with strangers
0 1 2 28. Too independent
0 1 2 29. Treats you as though you were the child, and he was the parent
0 1 2 30. Uncaring (shows little concern for others)
0 1 2 31. Wary or vigilant
0 1 2 32. Worries that something bad will happen to you

PART 2

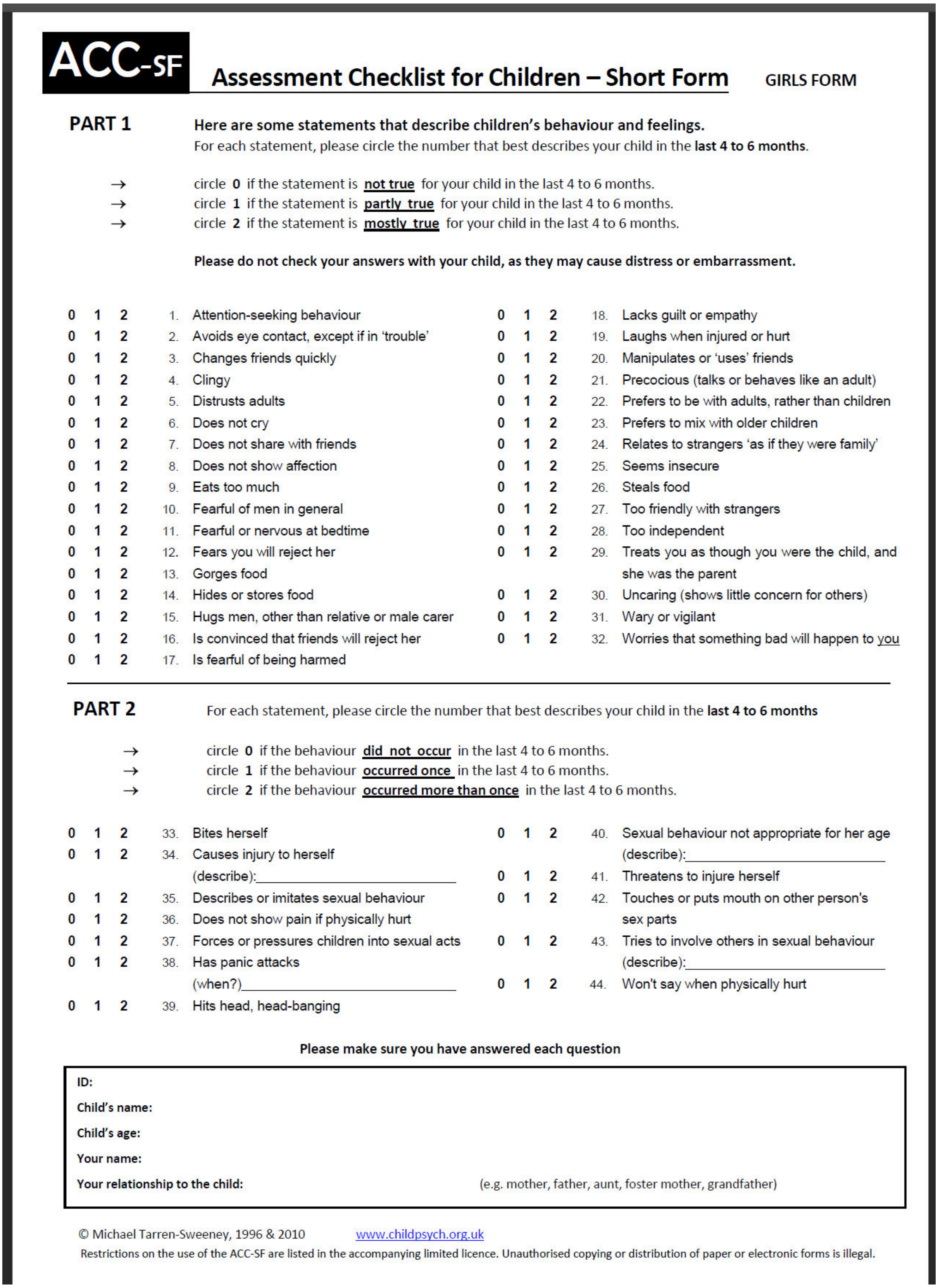
For each statement, please circle the number that best describes your child in the **last 4 to 6 months**

→ circle **0** if the behaviour **did not occur** in the last 4 to 6 months.
→ circle **1** if the behaviour **occurred once** in the last 4 to 6 months.
→ circle **2** if the behaviour **occurred more than once** in the last 4 to 6 months.

0 1 2 33. Bites himself
0 1 2 34. Causes injury to himself (describe):____________________
0 1 2 35. Describes or imitates sexual behaviour
0 1 2 36. Does not show pain if physically hurt
0 1 2 37. Forces or pressures children into sexual acts
0 1 2 38. Has panic attacks (when?)____________________
0 1 2 39. Hits head, head-banging
0 1 2 40. Sexual behaviour not appropriate for his age (describe):____________________
0 1 2 41. Threatens to injure himself
0 1 2 42. Touches or puts mouth on other person's sex parts
0 1 2 43. Tries to involve others in sexual behaviour (describe):____________________
0 1 2 44. Won't say when physically hurt

Please make sure you have answered each question

ID:
Child's name:
Child's age:
Your name:
Your relationship to the child: (e.g. mother, father, aunt, foster mother, grandfather)



ACC-SF Assessment Checklist for Children – Short Form **GIRLS FORM**

PART 1

Here are some statements that describe children's behaviour and feelings.
For each statement, please circle the number that best describes your child in the **last 4 to 6 months.**

→ circle **0** if the statement is **not true** for your child in the last 4 to 6 months.
→ circle **1** if the statement is **partly true** for your child in the last 4 to 6 months.
→ circle **2** if the statement is **mostly true** for your child in the last 4 to 6 months.

Please do not check your answers with your child, as they may cause distress or embarrassment.

0 1 2 1. Attention-seeking behaviour
0 1 2 2. Avoids eye contact, except if in 'trouble'
0 1 2 3. Changes friends quickly
0 1 2 4. Clingy
0 1 2 5. Distrusts adults
0 1 2 6. Does not cry
0 1 2 7. Does not share with friends
0 1 2 8. Does not show affection
0 1 2 9. Eats too much
0 1 2 10. Fearful of men in general
0 1 2 11. Fearful or nervous at bedtime
0 1 2 12. Fears you will reject her
0 1 2 13. Gorges food
0 1 2 14. Hides or stores food
0 1 2 15. Hugs men, other than relative or male carer
0 1 2 16. Is convinced that friends will reject her
0 1 2 17. Is fearful of being harmed
0 1 2 18. Lacks guilt or empathy
0 1 2 19. Laughs when injured or hurt
0 1 2 20. Manipulates or 'uses' friends
0 1 2 21. Precocious (talks or behaves like an adult)
0 1 2 22. Prefers to be with adults, rather than children
0 1 2 23. Prefers to mix with older children
0 1 2 24. Relates to strangers 'as if they were family'
0 1 2 25. Seems insecure
0 1 2 26. Steals food
0 1 2 27. Too friendly with strangers
0 1 2 28. Too independent
0 1 2 29. Treats you as though you were the child, and she was the parent
0 1 2 30. Uncaring (shows little concern for others)
0 1 2 31. Wary or vigilant
0 1 2 32. Worries that something bad will happen to you

PART 2

For each statement, please circle the number that best describes your child in the **last 4 to 6 months**

→ circle **0** if the behaviour **did not occur** in the last 4 to 6 months.
→ circle **1** if the behaviour **occurred once** in the last 4 to 6 months.
→ circle **2** if the behaviour **occurred more than once** in the last 4 to 6 months.

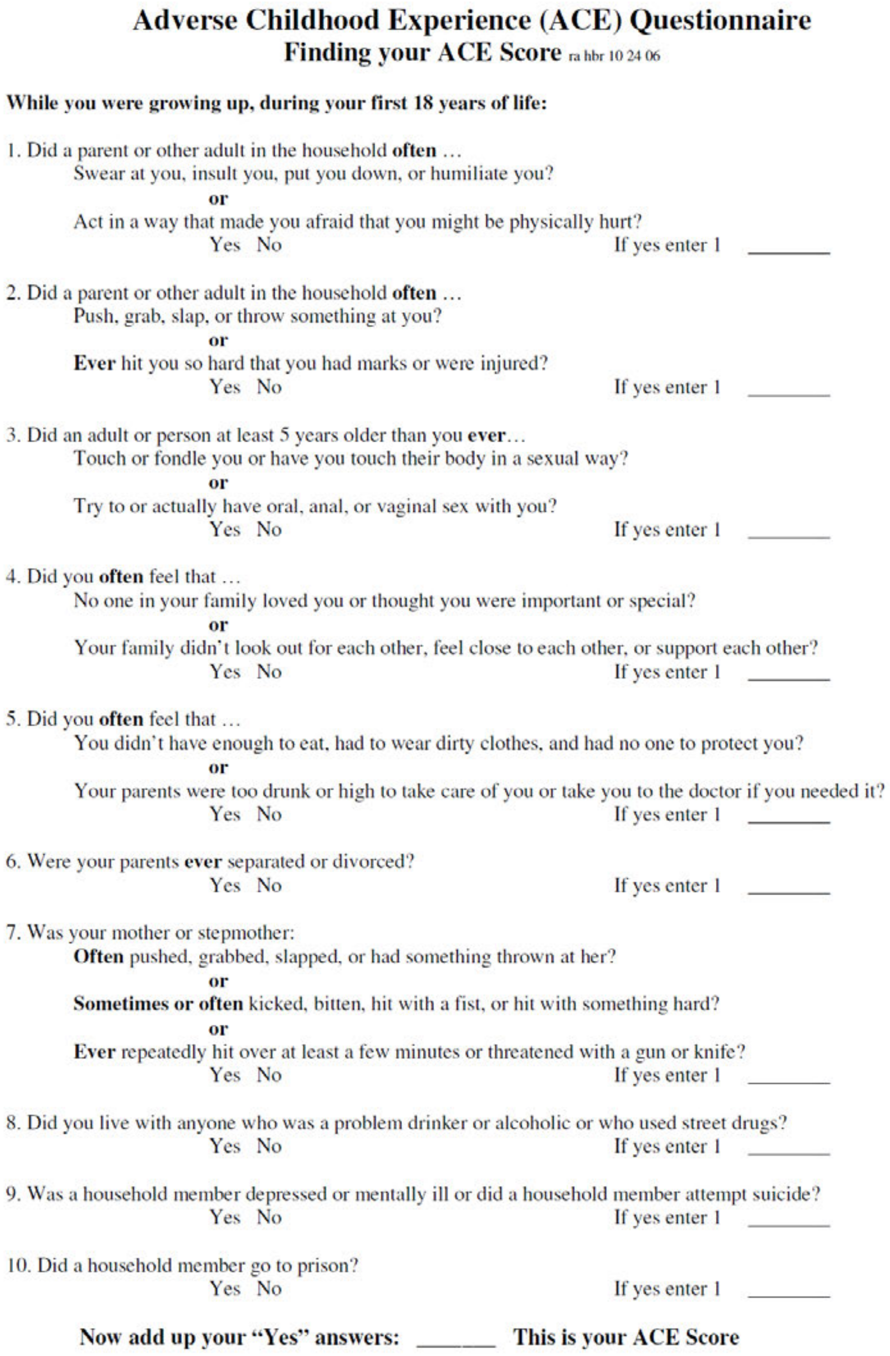
0 1 2 33. Bites herself
0 1 2 34. Causes injury to herself (describe):____________________
0 1 2 35. Describes or imitates sexual behaviour
0 1 2 36. Does not show pain if physically hurt
0 1 2 37. Forces or pressures children into sexual acts
0 1 2 38. Has panic attacks (when?)____________________
0 1 2 39. Hits head, head-banging
0 1 2 40. Sexual behaviour not appropriate for her age (describe):____________________
0 1 2 41. Threatens to injure herself
0 1 2 42. Touches or puts mouth on other person's sex parts
0 1 2 43. Tries to involve others in sexual behaviour (describe):____________________
0 1 2 44. Won't say when physically hurt

Please make sure you have answered each question

ID:
Child's name:
Child's age:
Your name:
Your relationship to the child: (e.g. mother, father, aunt, foster mother, grandfather)

Appendix C

ACE for study 1a and 1b



Adverse Childhood Experience (ACE) Questionnaire

Finding your ACE Score ra hbr 10 24 06

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** …
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No If yes enter 1 ________

2. Did a parent or other adult in the household **often** …
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 ________

3. Did an adult or person at least 5 years older than you **ever**…
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Try to or actually have oral, anal, or vaginal sex with you?
   Yes No If yes enter 1 ________

4. Did you **often** feel that …
   No one in your family loved you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No If yes enter 1 ________

5. Did you **often** feel that …
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No If yes enter 1 ________

6. Were your parents **ever** separated or divorced?
   Yes No If yes enter 1 ________

7. Was your mother or stepmother:
   Often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
   or
   Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
   Yes No If yes enter 1 ________

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 ________

9. Was a household member depressed or mentally ill or did a household member attempt suicide?
   Yes No If yes enter 1 ________

10. Did a household member go to prison?
    Yes No If yes enter 1 ________

Now add up your "Yes" answers: _______ This is your ACE Score

Appendix D

Survey for Study 1a

2. How old are you?

3. What is your gender?

4. What is your race?

4.a. If you selected Other, please specify:

5. What is your diagnosed level of Autism Spectrum Disorder?

6. How impacted are your verbal skills?

7. How impacted are your daily living skills, including ability to independently go to the toilet, brush teeth, get dressed, etc.?

8. Here are some statements that describe children's behaviours and feelings. For each statement, please select the word that best describes you in your childhood -> select Never if the behaviour did not occur at all -> select Sometimes if the behaviour occurred at least more than once -> select Frequently if the behaviour occurred often In your childhood...

8.1. 1. Did you exhibit attention-seeking behaviour

8.2. 2. Did you avoid eye contact, except if in 'trouble'

8.3. 3. Did you change friends quickly

8.4. 4. Were you clingy

8.5. 5. Did you distrust adults

8.6. 6.Did you not cry

8.7. 7. Did you not share with friends

8.8. 8. Did you not show affection

8.9. 9. Did you eat too much

8.10. 10. Were you fearful of men in general

8.11. 11. Were you fearful or nervous at bedtime

8.12. 12. Were you fearful of rejection

8.13. 13. Did you gorge food

8.14. 14. Did you hide or store food

8.15. 15. Did you hug men, other than relative or male carer

8.16. 16. Were you convinced that friends will reject you

8.17. 17. Were you fearful of being harmed

8.18. 18. Did you lack guilt or empathy

8.19. 19. Did you laugh when injured or hurt

8.20. 20. Did you manipulate or 'use' friends

8.21. 21. Were you precocious (talks or behaves like an adult)

8.22. 22. Did you prefer to be with adults, rather than children

8.23. 23. Did you prefer to mix with older children

8.24. 24. Did you relate to strangers 'as if they were family'

8.25. 25. Did you seem insecure

8.26. 26. Did you steal food

8.27. 27. Were you too friendly with strangers

8.28. 28. Were you too independent

8.29. 29. Did you treat parent/caregiver as though they were the child, and you were the parent

8.30. 30. Were you uncaring (shows little concern for others)

8.31. 31. Were you wary or vigilant

8.32. 32. Did you worry that something bad would happen to you

9. For each statement, please select if it Never occured, Sometimes occured, or Frequently occured In your childhood would you...

9.1. 33. Bite yourself

9.2. 34. Cause injury to yourself

9.3. 35. Describe or imitate sexual behaviour

9.4. 36. Not show pain if physically hurt

9.5. 37. Force or pressure children into sexual acts

9.6. 38. Have panic attacks

9.7. 39. Hit your head, or exhibit head-banging

9.8. 40. Exhibit sexual behaviour not appropriate for your age at the time

9.9. 41. Threaten to injure yourself

9.10. 42. Touch of put your mouth on other person's sex parts

9.11. 43. Try to involve others in sexual behaviour

9.12. 44. Not say when you were physically hurt

9.a. If in your childhood you caused injury to yourself, please describe in what way you caused injury to yourself. If not, please skip this question.

9.b. If in your childhood you had panic attacks please explain when. If not, please skip this question.

9.c. If in your childhood you exhibited sexual behaviour not appropriate for your age, please describe the behaviour. If not, please skip this question.

9.d. If in your childhood you tried to involve others in sexual behaviour, please describe the behaviour. If not, please skip this question.

10. Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you? Or act in any way that made you afraid that you might be physically hurt?

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

12. Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way? Or try to or actually have oral, anal, or vaginal sex with you?

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

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

15. Were your parents ever separated or divorced?

16. Was your mother or stepmother: Often pushed, grabbed, slapped, or had something thrown at her? Or sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

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

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

19. Did a household member go to prison?

20. Have you ever experienced any type of abuse in your childhood?

21. Approximately what age were you when the abuse began?

22. What type of abuse occurred? Please select all types that occurred and then specify which type of abuse occurred most often.

22.a. Which type of abuse occured most often?

23. Where did the abuse take place? Please select all and then specify where the abuse occurred most often. If the place where the abused occurred is not listed, please select other and specify.

23.a. If you selected Other, please specify:

23.b. Where did the abuse occur most often?

24. Who perpetrated the abuse? Please select all and then specify who perpetrated the abuse most often. If the person is not listed, please select 'other' and specify.

24.a. If you selected Other, please specify

24.b. Who perpetrated the abuse most often?

25. At the time the abuse first occurred, approximately how old was the person who perpetrated the abuse?

26. What race was the person who perpetrated the abuse?

26.a. If you selected Other, please specify:

27. What was the gender of the person who perpetrated the abuse?

28. After initial abuse had stopped, did any instances of abuse re-occur? (This question is asking about abuse that may have happened later on, after all instances of initial abuse stopped, it is not asking about instances during initial abuse.)

29. How long did the abuse continue for?

30. What type of abuse occurred? Please select all the types of abuse that occurred. Please then specify the type of abuse that occurred most often.

30.a. Which type of abuse occurred most often?

31. How old were you when the abuse occurred?

32. When the abuse first began, approximately how old was the person who perpetrated the abuse?

33. What race was the person who perpetrated the abuse?

33.a. If you selected Other, please specify:

34. What gender was the person who perpetrated the abuse?

35. Who perpetrated the abuse? Please select all. If the person is not listed, please select 'other' and specify. Please also specify who perpetrated the abuse most often. 35.a. If you selected Other, please specify:

35.b. Who perpetrated the abuse most often?

36. Where did the abuse take place? Please select all the settings where the abuse occured, if the place where the abused occured is not listed, please select

'other' and specify. Please also specify where the abuse occured most often.
36.a. If you selected Other, please specify:

36.b. Where did the abuse occur most often?

37. Have any types of therapy been recommended?

38. Were any types of therapy recommended, or completed, to help treat the abuse? 39. Which therapies were recommended to help treat the abuse? If known, please select all that apply. If there was a predominate therapy, please specify.
39.a. If you selected Other, please specify:

39.b. If there was one predominate type of therapy, please specify:

40. Were any types of therapy recommended or completed to help treat issues associated with Autism Spectrum Disorder?

41. Which therapies were recommended to help treat issues related to Autism Spectrum Disorder? If known, please select all that apply. If there was a predominate therapy, please specify.

41.a. If you selected Other, please specify:

41.b. If there was one predominate type of therapy, please specify:

42. Were any types of therapy fully completed?

42.a. If you selected Yes, please specify which therapy was completed:

43. How successful was the therapy in reducing trauma-related symptoms?

44. How successful was the therapy in reducing depression-related symptoms?

45. How successful was the therapy in reducing anxiety-related issues?

46. How successful was the therapy in reducing behavioural issues?

47. How successful was the therapy in reducing communication/language issues?

Appendix E

Survey for Study 1b

3. How old is your child?

4. What is your child's race?

4.a. If you selected Other, please specify:

5. What is your child's gender?

6. What level of Autism Spectrum Disorder has your child been diagnosed with?

7. How impacted are your child's verbal skills?

8. How impacted are your child's daily living skills, including ability to independently go to the toilet, brush teeth, get dressed,etc.?

9. How old are you?

10. What is your relationship to your child? Please select one, if not listed please select 'other' and specify.

10.a. If you selected Other, please specify:

11. Please select the sex your child was assigned at birth

12. Here are some statements that describe children's behaviour and feelings. For each statement, please select the number that best describes your child in the last 4 to 6 months -> select 0 if the statement is not true for your child in the last 4 to 6 months ->select 1 if the statement is partly true for your child in the last 4 to 6 months -> select 2 if the statement is mostly true for your child in the last 4 to 6 months

12.1. 1. Attention-seeking behaviour

12.2. 2. Avoids eye contact, except if in 'trouble'

12.3. 3. Changes Friends quickly

12.4. 4. Clingy

12.5. 5. Distrusts adults

12.6. 6. Does not cry

12.7. 7. Does not share with friends

12.8. 8. Does not show affection

12.9. 9. Eats too much

12.10. 10. Fearful of men in general

12.11. 11. Fearful or nervous at bedtime

12.12. 12. Fears you will reject him

12.13. 13. Gorges food

12.14. 14. Hides or stores food

12.15. 15. Hugs men, other than relative or male carer

12.16. 16. Is convinced that friends will reject him

12.17. 17. Is fearful of being harmed

12.18. 18. Lacks guilt or empathy

12.19. 19. Laughs when injured or hurt

12.20. 20. Manipulates or 'uses' friends

12.21. 21. Precocious (talks or behaves like an adult)

12.22. 22. Prefers to be with adults, rather than children

12.23. 23. Prefers to mix with older children

12.24. 24. Relates to strangers 'as if they were family'

12.25. 25. Seems insecure

12.26. 26. Steals food

12.27. 27. Too friendly with strangers

12.28. 28. Too independent

12.29. 29. Treats you as though you were the child, and he was the parent

12.30. 30. Uncaring (shows little concern for others)

12.31. 31. Wary or vigilant

12.32. 32. Worries that something bad will happen to you

13. Here are some statements that describe children's behaviour and feelings. For each statement, please select the number that best describes your child in the last 4 to 6 months -> select 0 if the statement is not true for your child in the last 4 to 6 months ->select 1 if the statement is partly true for your child in the last 4 to 6 months -> select 2 if the statement is mostly true for your child in the last 4 to 6 months

13.1. 33. Bites himself

13.2. 34. Causes injury to himself

13.3. 35. Describes or imitates sexual behaviour

13.4. 36. Does not show pain if physically hurt

13.5. 37. Forces or pressures children into sexual acts

13.6. 38. Has panic attacks

13.7. 39. Hits head, head-banging

13.8. 40. Sexual behaviour not appropriate for his age

13.9. 41. Threatens to injure himself

13.10. 42. Touches of puts mouth on other person's sex parts

13.11. 43. Tries to involve others in sexual behaviour

13.12. 44. Won't say when physically hurt

13.a. If your child causes injury to himself, please describe how he causes injury to himself. If not, please skip this question.

13.b. If your child has panic attacks please explain when. If not, please skip this question.

13.c. If your child has sexual behaviour not appropriate for his age, please describe the behaviour. If not, please skip this question.

13.d. If your child tries to involve others in sexual behaviour, please describe the behaviour. If not, please skip this question.

14. I have finished this section and anwsered all questions to the best of my ability

15. Here are some statements that describe children's behaviour and feelings. For each statement, please select the number that best describes your child in the last 4 to 6 months -> select 0 if the statement is not true for your child in the last 4 to 6 months ->select 1 if the statement is partly true for your child in the last 4 to 6 months -> select 2 if the statement is mostly true for your child in the last 4 to 6 months

15.1. 1. Attention-seeking behaviour

15.2. 2. Avoids eye contact, except if in 'trouble'15.3. 3. Changes friends quickly 15.4. 4. Clingy

15.5. 5. Distrusts adults

15.6. 6. Does not cry

15.7. 7. Does not share with friends

15.8. 8. Does not show affection

15.9. 9. Eats too much

15.10. 10. Fearful of men in general

15.11. 11. Fearful or nervous at bedtime

15.12. 12. Fears you will reject her

15.13. 13. Gorges food

15.14. 14. Hides or stores food

15.15. 15. Hugs men, other than relative or male carer

15.16. 16. Is convinced that friends will reject her

15.17. 17. Is fearful of being harmed

15.18. 18. Lacks guilt or empathy

15.19. 19. Laughs when injured or hurt

15.20. 20. Manipulates or 'uses' friends

15.21. 21. Precocious (talks or behaves like an adult)

15.22. 22. Prefers to be with adults, rather than children

15.23. 23. Prefers to mix with older children

15.24. 24. Relates to strangers 'as if they were family'

15.25. 25. Seems insecure

15.26. 26. Steals food

15.27. 27. Too friendly with strangers

15.28. 28. Too independent

15.29. 29. Treats you as though you were the child, and she was the parent

15.30. 30. Uncaring (shows little concern for others)

15.31. 31. Wary or vigilant

15.32. 32. Worries that something bad will happen to you

16. For each statement, please select the number that best describes your child in the last 4 to 6 months

16.1. 33. Bites herself

16.2. 34. Causes injury to herself

16.3. 35. Describes or imitates sexual behaviour

16.4. 36. Does not show pain if physically hurt

16.5. 37. Forces or pressures children into sexual acts

16.6. 38. Has panic attacks

16.7. 39. Hits head, head-banging

16.8. 40. Sexual behaviour not appropriate for her age

16.9. 41. Threatens to injure herself

16.10. 42. Touches or puts mouth on other person's sex parts

16.11. 43. Tries to involve others in sexual behaviour

16.12. 44. Won't say when physically hurt

16.a. If your child causes injury to herself, please explain how she causes injury to herself. If not, please skip this question.

16.b. If your child has panic attacks, please explain when If not, please skip this question.

16.c. If your child has sexual behaviour not appropriate for her age, please describe the behaviour. If not, please skip this question.

16.d. If your child tries to involve others in sexual behaviour, please explain the behaviour. If not, please skip this question.

17. Did a parent or other adult in the household often swear at your child, insult your child, put your child down, or humiliate your child? Or act in any way that made your child afraid that they might be physically hurt?

18. Did a parent or other adult in the household often push, grab, slap, or throw something at your child? Or ever hit your child so hard that your child had marks or was injured?

19. Did an adult or person at least 5 years older than your child ever touch or fondle your child or have your child touch their body in a sexual way? Or try to or actually have oral, anal, or vaginal sex with your child?

20. Did your child often feel that no one in their family loved them or thought they were important or special? Or your child's family didn't look out for each other, feel close to each other, or support each other?

21. Did your child often feel that your child didn't have enough to eat, had to wear dirty clothes, and had no one to protect them? Or your child's parents were too drunk or high to take care of them or take them to the doctors if your child needed it?

22. Were your childs parents ever separated or divorced?

23. Was your child's mother or stepmother: Often pushed, grabbed, slapped, or had something thrown at her? Or sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

24. Did your child live with anyone who was a problem drinker or alcoholic or who used street drugs?

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

26. Did a household member go to prison?

27. Has your child ever experienced any type of abuse?

28. What type of abuse occurred? If there are multiple types, please select all and specify which type occurred most often.

28.a. Which type of abuse occurred most often?

29. Where did the abuse take place? If it occurred in multiple places, please select all and then specify which place it occurred most often. If not listed, please selected 'other' and specify.

29.a. If you selected Other, please specify:

29.b. Where did it occur most often?

30. How long did the abuse continue for?

31. How old was the person who perpetrated the abuse? If unknown, please specify that it is unknown.

32. What was the race of the person who perpetrated the abuse?

32.a. If you selected Other, please specify:

33. What gender was the person who perpetrated the abuse?

34. Who perpetrated the abuse? If more than one, please select all and specify who perpetrated the abuse most often. If the person is not listed please select 'other' and specify.

34.a. If you selected Other, please specify:

34.b. Who perpetrated the abuse most often?

35. Have any types of therapy been recommended for your child?

36. Were any types of therapy recommended to help treat abuse?

37. Which therapies were recommended to help treat the abuse? If known, please select all that apply. If known, please select all. If there was a predominate type of therapy please specify.

37.a. If you selected Other, please specify:

37. b. If there was one predominate type of therapy, please specify:

38. Were any types of therapy recommended to help treat issues related to Autism Spectrum Disorder?

39. Which therapies were recommended to help treat issues related to Autism Spectrum Disorder? If known, please select all. If there was a predominate type of therapy please specify.

39.a. If you selected Other, please specify:

39. b. If there was one predominate type of therapy, please specify:

40. Were any types of therapy fully completed?

40.a. If you selected Yes, please specify which therapy was completed:

41. How successful was the therapy in reducing trauma-related symptoms?

42. How successful was the therapy in reducing depression-related symptoms?

43. How successful was the therapy in reducing anxiety-related symptoms?

44. How successful was the therapy in reducing behavioural issues?

45. How successful was the therapy in reducing communication/language issues?

Appendix F

Information sheet for Study 1a

Participant Information Form

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

Aim of research

The aims of this survey is to explore childhood experiences of autistic children and associated behavioural characteristics.

The whole survey will take approximately 20 minutes to complete. All questions are voluntary; therefore, you do not have to answer a question if you do not want to.

Please only participate if you are 18 years old or above.

What the study entails

The survey will begin by asking about general demographic information about you, Autism Spectrum Disorder, and therapeutic services that you may have received.

You will then be asked questions relating to:

- social, behavioural and emotional characteristics;
- food related behaviours, including things such as overeating, pickiness with food, etc.
- Self-injurious behaviours, such as hitting your head, biting or scratching yourself, and suicidal behaviours.
- Childhood experiences

When the survey is completed, you will be debriefed about the specific aims of the research and will be provided with the contact details of the researcher. You will also be asked to give a unique identifier at the end of the survey, this is so the researcher can identify your data while still keeping it anonymous. Should you wish to ask any questions or withdraw your data, please contact the researcher. If you wish to withdraw your data you must contact the research within two weeks of completing the survey.

Do I have to take part?

No, it is up to you to decide to volunteer for the study. After reading this information sheet, if you have any questions, you can contact the researcher. You are free to discontinue with the study (without giving a reason) at any point during the survey itself and may also withdraw within 2 weeks of completing the survey . If you would like to discontinue while you are taking the survey, you may simply close your browser. If you would like to withdraw after you have completed the survey, please email the researcher with your unique identifier, within two weeks of completing the survey.

Descriptions of risks

As the subject matter of this survey can be quite sensitive, there may be some questions where the subject matter may be upsetting for certain individuals. Please do not answer any questions that you do not feel comfortable with. You can also stop participating at any time by simply not answering any question that you are not comfortable with, additionally you may simply close your browser and none of your previous responses will be recorded. Responses are only recorded if you press the submit button at the end of the study.

Should there be any negative affects experienced due to the subject matter of the questions, please discontinue the survey and call your GP or the Samaritans hotline, listed below.

Samaritans hotline UK: 116 123

Or for information on your countries mental health helplines please visit: https://checkpointorg.com/global/

Anonymity of data and Storage of data

You will create a unique identifier code which corresponds with your data sheet. There is no personal information asked in the survey which could be used to identify a specific participant.

All data will be kept securely in line with Data Protection legislation and with the University of Gloucestershire's Privacy Policy (see https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf). You will be assigned a unique identifier to prevent personal details from being linked directly with your data. The unique identifier will consist of the first three letters of your parent's name (if known, mother's maiden name is suggested to use) and the first three numbers of your date of birth. For example, if your mothers maiden name was Williams and your date of birth was 10 June, your unique identifier would be Wil106.

Your anonymised data will be combined with that of all participants in the study (such that your responses will not be personally identifiable from the dataset), and the results may be written up for publication in an academic journal. No names of participants or addresses will be taken during this study.

What will happen if I do not want to carry on with the research?

All participants have the right to withdraw at any time during the study for any reason, which does not need to be disclosed to the researcher.

If, at any time, you wish to withdraw from the study then you can simply close the browser, if you have not yet submitted the survey. You may also contact the researcher with your unique identifier within 2 weeks of completing your survey .

Who has reviewed this study?

All research is assessed by an independent panel of people, called a University Research Ethics Committee. This study has been reviewed and approved by the Research Ethics Committee at the University of Gloucestershire. If you would like to discuss any issues related to the ethics of this study then please contact the chair of the Research Ethics Committee, Dr Emily Ryall (eryall@glos.ac.uk).

Contact information

Kirsten Pearson, PhD Researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Dr. Kim Schenke, Supervisor

Email: [redacted]

Dr. Emily Ryall, Chair of the Research Ethics Committee

Email: [redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

It is recommended that you keep a copy of this for your records. (You may take a screenshot of this form)

Please note

This survey is being distributed internationally. As such, some of the phrasing may be unfamiliar to you, or may feel uncomfortable using it. Whilst the survey has been created in consultation with experts by experience, there was a lack of general agreement on phrasing around this topic. Additionally, we have had to use some validated instruments that were developed historically (with some outdated terminology). Accessibility and the use of accessible language for all is extremely important in daily life, but is often overlooked in research – this is something we would like to draw attention to this within this PhD project. As such, we would like to invite you to provide share your experiences of completing this survey, and any suggestions on language, approach and anything else you deem important. It is hoped that we can then implement this in both future studies and recommendations for wider research development.

Appendix G

Information sheet for parents, guardians, and caregivers for Study 1b

Information sheet

Participant Information Form

Parents or caregivers of children

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

Aim of research

The aims of this survey are to explore childhood experiences of autistic children and associated behavioural characteristics.

The whole survey will take approximately 30 minutes to complete. All questions are voluntary; therefore, you do not have to answer a question if you do not want to.

Please only participate if you are 18 years old or above.

What the study entails

The survey will begin by asking about general demographic information of you and your child, Autism Spectrum Disorder, and therapeutic services the child in your care may have received (such as Applied Behavioural Analysis therapy, Cognitive Behavioural Therapy, or Occupational Therapy etc.).

You will then be asked specific questions pertaining to the child in your care relating to:

- social, behavioural and emotional characteristics;
- food related behaviours, including things such as overeating, pickiness with food, etc.
- self-injurious behaviours, such as your child hitting their head, biting or scratching themselves, and suicidal behaviours.
- Childhood experineces of the child in your care

When the survey is completed, you will be debriefed about the specific aims of the research and provided with the contact details of the researcher. You will also be asked to give a unique identifier at the end of the survey, this is so the researcher can identify your data while still keeping it anonymous. Should have any questions or if you wish to withdraw your data please contact the researcher. If you wish to withdraw your data you must contact the researcher within two weeks of completing the survey.

Do I have to take part?

No, it is up to you to decide to volunteer for the study. After reading the information sheet, if you have any questions, you can contact the researcher. You are free to discontinue from the survey (without giving a reason) at any point during the survey itself. If you would like to withdraw after you have completed the survey, please email the researcher with your unique identifier within 2 weeks of completing the survey .

Descriptions of risks

As the subject matter of this research can be sensitive, there may be some upsetting questions for certain individuals. Please do not answer any questions that you do not feel comfortable with. Please be aware that you can stop participating at any time by simply not answering any question that you are not comfortable with. Additionally, you may simply close your browser and none of your previous responses will be recorded. Responses are only recorded if you press the submit button at the end of the study.

Should there be any negative affects experienced due to the subject matter of the questions, please discontinue the survey and call your GP or the Samaritans hotline, listed below.

Samaritans hotline UK: 116 123

Or for information on your countries mental health helplines please visit: https://checkpointorg.com/global/

Anonymity of data and Storage of data

You will create a unique identifier code which corresponds with your data sheet. There is no personal information asked in the survey which could be used to identify a specific participant.

All data will be kept securely in line with Data Protection legislation and with the University of Gloucestershire's Privacy Policy (see https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf). Your unique identifier prevents personal details from being linked directly with your data. The unique identifier will consist of the first three letters of your parent's name (if known, mother's birth name is suggested to use) and the first three numbers of your date of birth. For example, if your mothers maiden name was Williams and your date of birth was 10 June, your unique identifier would be Wil106.

Your anonymised data will be combined with that of all participants in the study (such that your responses will not be personally identifiable from the dataset) and the results may be written up for publication in an academic journal. No names or addresses will be taken during this study.

What will happen if I do not want to carry on with the research?

All participants have the right to withdraw at any time during the study for any reason, which does not need to be disclosed to the researcher. If, at any time, you wish to withdraw from the study then you can simply close the browser if you have not yet submitted the survey. Following submission of the survey, you can contact the researcher with your unique identifier within 2 weeks of your participation.

Who has reviewed this study?

All research is assessed by an independent panel of people, called a University Research Ethics Committee. This study has been reviewed and approved by the Research Ethics Committee at the University of Gloucestershire. If you would like to discuss any issues related to the ethics of this study then please contact the chair of the Research Ethics Committee, Dr Emily Ryall (eryall@glos.ac.uk).

Contact information

Kirsten Pearson, PhD Researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Dr. Kim Schenke, Supervisor

Email: [redacted]

Dr. Emily Ryall, Chair of the Research Ethics Committee

[redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

You are advised to keep a copy of this information sheet for your records. (You may take a screenshot of this form)

Please note

This survey is being distributed internationally. As such, some of the phrasing may be unfamiliar to you, or may feel uncomfortable using it. Whilst the survey has been created in consultation with experts by experience, there was a lack of general agreement on phrasing around this topic. Additionally, we have had to use some validated instruments that were developed historically (with some outdated terminology). Accessibility and the use of accessible language for all is extremely important in daily life, but is often overlooked in research – this is something we would like to draw attention to this within this PhD project. As such, we would like to invite you to provide share your experiences of completing this survey, and any suggestions on language, approach and anything else you deem important. It is hoped that we can then implement this in both future studies and recommendations for wider research development.

Appendix H

Consent form for Study 1a

Title of research Exploring the Experiences and Therapeutic Needs of Autistic Children When completed this form gives informed consent to participate in this study. **Please tick each box to indicate the acceptance of each statement.**

I have read the information sheet provided and understand what I am required to do in order to take part in this study.

I understand my rights as a participant, and I understand that I can withdraw my data from this research project at any time during the study and must do within two weeks of my participation if I do not want my data being used.

I have had the opportunity to ask questions before consenting to participate in the study and am satisfied with the information provided either through the information sheet, or from adequately answered questions to the researcher.

I understand the aim of this study and that it is not intended to diagnosis or treat any kind of mental disorder.

I understand that the data taken will be held confidentially and securely and that the data I give will only be identifiable by my unique identifier. And I understand that the information given will be processed and stored accordingly following the Data Protection Legislation, and that information provided may be held indefinitely by the University.

I understand that some questions in the survey are personal or may cause some distress. If distress occurs, I understand that I can discontinue the survey and should seek help from my GP or one of the helplines listed on the information and debrief forms.

I confirm that I am the person I am giving information about and that I am at least 18 years of age; and that I consent to participating in this study.

By ticking this box, you are giving your consent to participate in this study.

I understand that some questions in the survey are personal or may cause some distress. If distress occurs, I understand that I can discontinue the survey and should seek help from my GP or one of the helplines listed on the information and debrief forms.

For further questions please contact the researcher of the study.

Kirsten Pearson, PhD Researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Dr. Kim Schenke, Supervisor

Email: [redacted]

Dr. Emily Ryall, Chair of the Research Ethics Committee

Email: [redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

Appendix I

Consent form for Study 1b

Consent form for Parents/guardians/caregivers

Participation Consent Form Parents/caregivers of autistic children who experienced abuse **Title of research** Exploring the Experiences and Therapeutic Needs of Autistic Children **Please tick each box to indicate the acceptance of each statement** When completed this form gives informed consent to participate in this study.

I have read the information sheet provided and understand what I am required to do in order to take part in this study

I understand my rights as a participant, and I understand that I can withdraw my data from this research project at any time during the study and must do so within two weeks of my participation if I do not want my data being used

I understand the aim of this study and that it is not intended to diagnose or treat any kind of mental disorder.

I have had the opportunity to ask questions before consenting to participate in the study and am satisfied with the information provided either through the information sheet, or from adequately answered questions to the researcher.

I understand that the data taken will be held confidentially and securely and that the data I give will only be identifiable by my unique identifier. And I understand that the information given will be processed and stored accordingly following the Data Protection Legislation, and that information provided may be held indefinitely by the University.

I understand that some questions in the survey are personal or may cause some distress. If distress occurs, I understand that I can discontinue the survey and should seek help from my GP or one of the helplines listed on the information and debrief forms.

I confirm that I am the parent/guardian/caregiver of the child I am giving information about and that I am at least 18 years of age; and that I consent to participating in this study

By ticking this box, I am giving my consent to participate in this study

I understand that some questions in the survey are personal or may cause some distress. If distress occurs, I understand that I can discontinue the survey and should seek help from my GP or one of the helplines listed on the information and debrief forms.

For further questions please contact the researcher of the study.

Kirsten Pearson, PhD Researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Dr. Kim Schenke, Supervisor

Email: [redacted]

Dr. Emily Ryall, Chair of the Research Ethics Committee

Email: [redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

Appendix J

Debrief form for Study 1a

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

The study

The survey aimed to determine the occurrence of certain childhood experiences and associated characteristics, including the prevalence of Adverse Childhood Experiences and the potential impact of these. Therefore, you were asked about the occurrence of adverse childhood experiences along with other various personal characteristics (including behavioural, social and emotional characteristics). You were asked these questions so that we can investigate the potential influence of adverse childhood experiences on these characteristics. The survey also collected various demographic information (e.g., age and gender) to understand whether some populations experienced more adverse childhood experiences than others.

Data

The data you have contributed will form part of a larger dataset; your data will not be analysed individually. You have created a unique identifier which will be linked to your data. Should you wish to withdraw it from the study within two weeks of your participation, you must use the unique identifier and email the researcher. Your data will remain anonymous and confidential, and so findings will not be traceable to you. This study will be written up and this, alongside the anonymized dataset, may be published in an academic journal. Any personally identifiable information will be stored securely and destroyed at the end of the project.

All information will be kept securely and processed in line with the British Psychological Society and the University of Gloucestershire ethical guidelines with personal information processed in compliance with data protection legislation. To read more about the university privacy policy for research participants please follow this link: https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf.

What if I do not wish to have my data used?

If you would like to withdraw your results, please email the researcher your unique identifier (the first three letters of one of your parent’s birth names and the first three numbers of your date of birth) within two weeks of your participation – any requests to withdraw after this time may not be actionable as the data may already have been anonymously entered for analysis.

Unique identifier

Your unique identifier is used if you wish to withdraw from the study and do not want your data used. The identifier is unique to you, it should consist of three letters and three digits. A suggestion for this code consists of the first three letters of one of your parent's birth names followed by the first three digits of your date of birth. For example, if your father's name is William and your birthday is the 12th of August, your unique identifier would be Wil128. To help you remember, please write down your unique identifier.

Although measures were taken to reduce any possible risks if any negative effects are felt after the study, please contact your GP or UK Samaritans hotline: 116 123

Or contact another helpline:

Help for Adult victims of Child Abuse (HAVOCA):

havoca.org

The National Association for People Abused in Childhood (NAPAC):

0808 801 0331

support@napac.org.uk

napac.org.uk

Victim Support:

0808 168 9111

Victimsupport.org.uk

Other helplines available at:

Mind

Infoline: 0300 123 3393

https://www.mind.org.uk/information-support/types-of-mental-health-problems

Shout

Text SHOUT to 85258

ASSIST Trauma Care:

assisttraumacare.org.uk

The National Association for People Abused in Childhood (NAPAC):

0808 801 0331

support@napac.org.uk

napac.org.uk

Victim Support:

0808 168 9111

Victimsupport.org.uk

USA support:

The National Center on Substance Abuse and Child Welfare:

1 866 493 2758

Ncsacw@cffutures.org
https://ncsacw.samhsa.gov/resources/trauma/trauma-resource-center-websites.aspx

Crisis Text Line

Text CONNECT to 741741

For information on your countries mental health helplines please visit:

https://checkpointorg.com/global/
https://findahelpline.com/

For information on your countries helplines please visit:

https://checkpointorg.com/global/

If you have questions about the research, then please contact the researcher: Kirsten Pearson, PhD researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Dr. Kim Schenke, Supervior

Email: [redacted]

If you wish to discuss the research with an independent party, please contact the chair of the Research Ethics Committee Dr Emily Ryall (eryall@glos.ac.uk).

This research has been approved by the University of Gloucestershire Research Ethics Committee.

It is recommended that you keep a copy of this debrief form. (You may screenshot this form).

Appendix K

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

The study

The survey aimed to determine the prevalence of certain childhood experiences and associated characteristics, including the prevalence of Adverse Childhood Experiences and the potential impact of these. Therefore, you were asked questions about the child in your care relating to the occurrence of adverse childhood experiences and other various personal characteristics (including behavioural, social and emotional characteristics). You were asked these questions so that we can investigate the potential influence of adverse childhood experiences on these characteristics. The survey also collected various demographic information (e.g., age and gender) to understand whether some populations experienced more adverse childhood experiences than others.

Data

The data you have contributed will form part of a larger dataset; your data will not be analysed individually. You have created a unique identifier which will be linked to your data. Should you wish to withdraw it from the study within two weeks of your participation you should email the researcher with your unique identifier. As such, your data will remain anonymous and confidential, and so findings will not be traceable to you. This study will be written up and this, alongside the anonymized dataset, may be published in an academic journal. Any personally identifiable information will be stored securely and destroyed at the end of the project.

All information will be kept securely and processed in line with the British Psychological Society and the University of Gloucestershire ethical guidelines with personal information processed in compliance with data protection legislation. To read more about the university privacy policy for research participants please follow this link: https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf.

What if I do not wish to have my data used?

If you would like to withdraw your results, please email the researcher your unique identifier (the first three letters of one of your parent’s birth names and the first three numbers of your date of birth) within two weeks of your participation – any requests to withdraw after this time may not be actionable as the data may already have been anonymously entered for analysis.

Unique identifier

Your unique identifier is used if you wish to withdraw from the study and do not want your data used. The identifier is unique to you and consists of three letters and three numbers. A suggestion for this code consists of the first three letters of one of your parents' names followed by the first three digits of your date of birth. For example, if your father's name was William and your birthday is the 12th of August, your unique identifier would be Wil128.

Although measures were taken to reduce any possible risks if any negative effects are felt after the study, please contact your GP or UK Samaritans hotline: 116 123

Or contact another helpline:

Help for Adult victims of Child Abuse (HAVOCA):

havoca.org

The National Association for People Abused in Childhood (NAPAC):

0808 801 0331

support@napac.org.uk

napac.org.uk

Victim Support:

0808 168 9111

Victimsupport.org.uk

Other helplines available at:

Mind

Infoline: 0300 123 3393

https://www.mind.org.uk/information-support/types-of-mental-health-problems

Shout

Text SHOUT to 85258

ASSIST Trauma Care:

assisttraumacare.org.uk

The National Association for People Abused in Childhood (NAPAC):

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support@napac.org.uk

napac.org.uk

Victim Support:

0808 168 9111

Victimsupport.org.uk

USA support:

The National Center on Substance Abuse and Child Welfare:

1 866 493 2758

Ncsacw@cffutures.org
https://ncsacw.samhsa.gov/resources/trauma/trauma-resource-center-websites.aspx

Crisis Text Line

Text CONNECT to 741741

For information on your countries mental health helplines please visit:

https://checkpointorg.com/global/
https://findahelpline.com/

For information on your countries helplines please visit:

https://checkpointorg.com/global/

If you have questions about the research, then please contact the researcher: Kirsten Pearson, PhD researcher

Email: [redacted]

Dr. Danielle Stephens-Lewis, Supervisor

Email: [redacted]

Appendix L

Ethical approval form for survey

UNIVERSITY OF
GLOUCESTERSHIRE

Dr Robin Bown
Research Ethics Committee Vice-Chair
Senior Lecturer in Marketing Interpretation

Oxstalls Campus,
Longlevens, Gloucester, GL2 9HW

Tel: [redacted]
Email: [redacted]

Via email

Kirsten Pearson
[redacted]

11/08/2021

Dear Kirsten

Thank you for your application for ethical approval.

I am pleased to confirm ethical clearance for your research following ethical review by the University of Gloucestershire's Research Ethics Committee (REC)'s Fast-Track Panel.

Please keep a record of this letter as a confirmation of your ethical approval.

Project Title:	'Exploring the experiences and therapeutic needs of autistic children who have experienced abuse'
Start Date:	04 August 2021
Projected Completion Date:	30 December 2023
REC Approval Code:	REC.21.88.2

If you have any questions about ethical clearance please feel free to contact me. Please use your REC Approval Code in any future correspondence regarding this study.

Good luck with your research project.

Regards,

[redacted]

Dr Robin Bown
Vice-Chair of Research Ethics Committee

Appendix M

Parametric tests for abuse and ACE for Study 1a

Table M 1

Skewness and Kurtosis for abuse and ACEs

	Skewness				Kurtosis			
	Statistic	S/E	Value	Assumption Satisfied Y/N	Statistic	S/E	Value	Assumption Satisfied Y/N
No abuse	.434	.398	1.09	Y	-.758	.778	-.974	Y
Abuse	-0.64	.361	-1.77	Y	.193	.709	.272	Y

Table M2

Test of Normality (Shapiro-Wilk) for abuse and ACEs

		W	**p**
ACE TOTAL	No Abuse	0.892	0.002
	Abuse	0.955	0.087

Note. Significant results suggest a deviation from normality.

Table M3

Test of Equality of Variances (Levene's) for abuse and ACEs

	F	**df_1**	**df_2**	**p**
ACE TOTAL	2.018	1	76	0.160

Appendix N

T-test output for abuse and ACE total for Study 1a

Table N 1

T-test for abuse and ACEs

	Test	Statistic	df	p	Mean Difference	SE Difference	Cohen's d	SE Cohen's d
ACE total	Student	-9.29	760.	< .001	-3.91	0.42	-2.11	0.34
	Welch	-9.62	74.5	< .001	-3.91	0.41	-2.15	0.34

Appendix O

Parametric tests for abuse and behavioural characteristics for Study 1a

Table O 1

Skewness and Kurtosis for abuse and behavioural characteristics

		Skewness				Kurtosis			
Behavioural characteristic		Statistic	S/E	Value	Assumption Satisfied Y/N	Statistic	S/E	Value	Assumption Satisfied Y/N
Sexual behaviour	No abuse	2.69	.40	6.77	N	7.28	.778	9.36	N
	Abuse	1.79	.361	4.95	N	2.46	.709	3.47	N
Pseudomature	No Abuse	.058	.398	.146	Y	-.871	.778	-1.12	Y
	Abuse	-.107	.361	-.296	Y	-1.03	.709	-1.76	Y
Non-reciprocal	No Abuse	.383	.398	.962	Y	-.346	.778	-.445	Y
	Abuse	.206	.361	.570	Y	-.181	.709	-.255	Y
Indiscriminate	No Abuse	1.093	.398	2.75	N	1.29	.778	1.66	Y
	Abuse	.023	.361	.064	Y	-.687	.709	-.969	Y
Insecure	No Abuse	.121	.398	.304	Y	-.990	.778	-1.27	Y
	Abuse	-1.196	.361	-3.31	N	.862	.709	1.22	Y
Anxious/distrustful	No Abuse	-.180	.398	-.452	Y	-.935	.778	-1.20	Y
	Abuse	-.794	.361	-2.199	Y	.140	.709	.197	Y
Abnormal pain	No Abuse	.260	.398	.653	Y	-.723	.778	-.929	Y
	Abuse	.054	.361	.150	Y	-.923	.709	-1.30	Y
Food maintenance	No Abuse	1.58	.298	5.31	N	2.29	.778	2.94	N
	Abuse	0.031	.361	.086	Y	-1.32	.709	-1.86	Y
Self-Injury	No Abuse	.764	.398	1.92	Y	-.288	.778	-.293	Y
	Abuse	.362	.361	1.00	Y	-.165	.709	-.232	Y

Table O 2

Test of Normality (Shapiro-Wilk) for abuse and behavioural characteristics

	Abuse	W	p
Pseudomature	No Abuse	0.92	0.011
	Abuse	0.94	0.035
Non-reciprocal	No Abuse	0.95	0.106
	Abuse	0.98	0.531
Indiscriminate	No Abuse	0.88	0.001
	Abuse	0.97	0.224
Insecure	No Abuse	0.94	0.063
	Abuse	0.84	< .001
Anxious/distrustful	No Abuse	0.95	0.092
	Abuse	0.93	0.012
Abnormal pain	No Abuse	0.94	0.048
	Abuse	0.95	0.051
Food maintenance	No Abuse	0.79	< .001
	Abuse	0.92	0.006
Self injury	No Abuse	0.88	0.001
	Abuse	0.94	0.018
Sexual behaviour	No Abuse	0.51	< .001
	Abuse	0.69	< .001

Note. **Significant results suggest a deviation from normality.**

Table O3

Test of Equality of Variances (Levene's) for abuse and behavioural characteristics

	F	df_1	df_2	p
Pseudomature	0.141	1	76	0.708
Non-reciprocal	0.173	1	76	0.678
Indiscriminate	6.587	1	76	0.012
Insecure	8.935×10^{-7}	1	76	0.999
Anxious/distrustful	0.129	1	76	0.720
Abnormal pain	2.987	1	76	0.088
Food maintenance	14.804	1	76	< .001
Self injury	0.509	1	76	0.478
Sexual behaviour	8.427	1	76	0.005

Appendix P

Bar plots for abuse and behavioural characteristics for Study 1a

Please note that the numbers on the side of the bar plot represent the corresponding number questions for each behavioural construct.

For each the error bars represent the standard error.

Figure P1

Abuse and Pseudomature bar chart

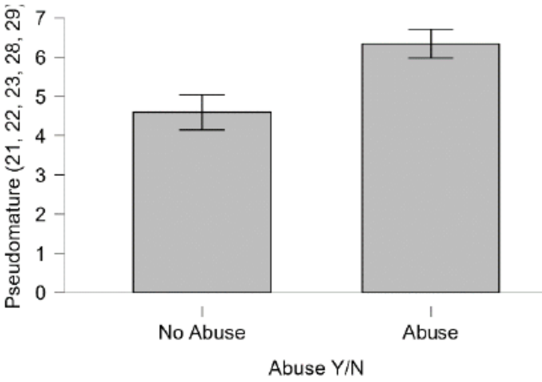


Figure P2

Abuse and Insecure bar chart

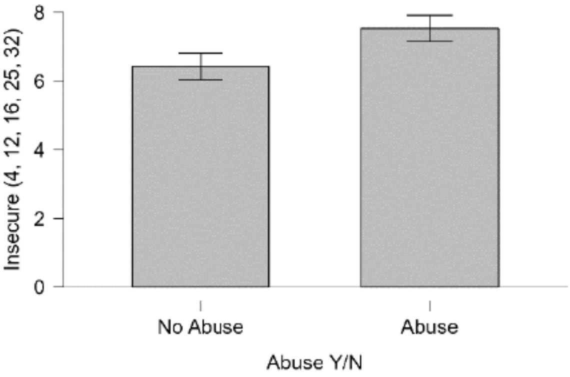


Figure P3

Abuse and Non-reciprocal bar chart

Figure P4

Abuse and Sexual behaviour bar chart

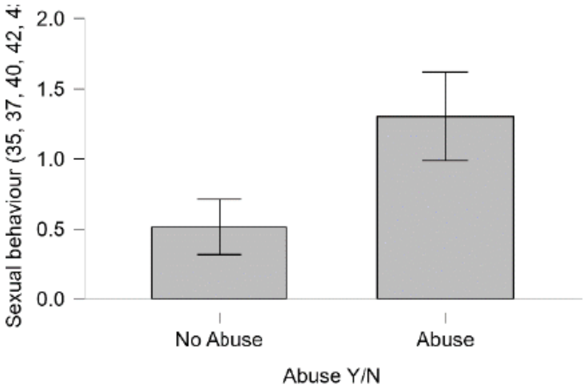


Figure P5

Abuse and Indiscriminate bar chart

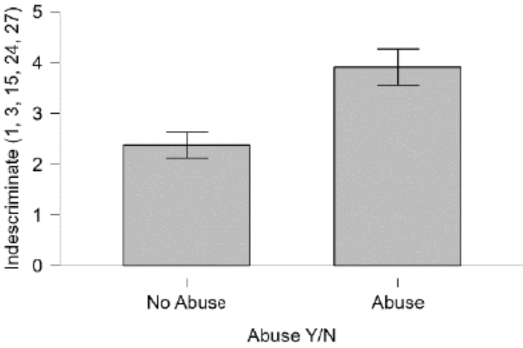
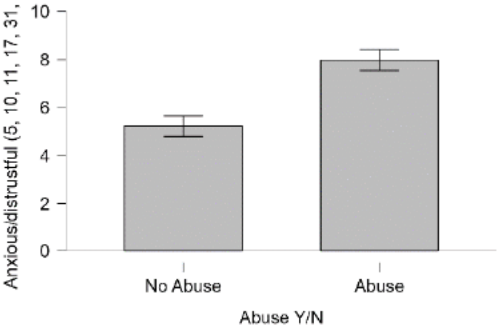


Figure P6

Abuse and Anxious/distrustful bar chart



Bar plots for abuse and behavioural characteristics for Study 1a

Figure P7

Abuse and food maintenance bar chart

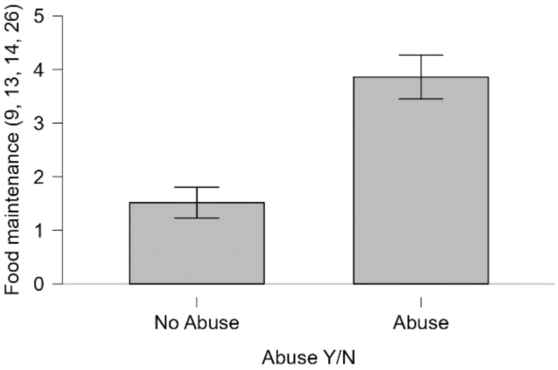


Figure P8

Abuse and abnormal pain bar chart

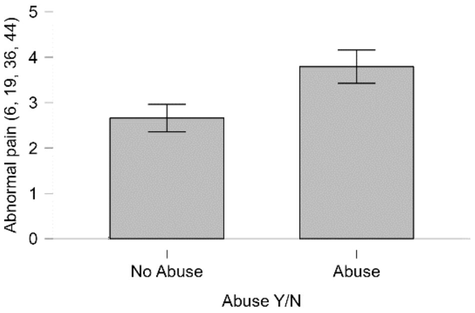


Figure P9

Abuse and self-injury bar plot

Appendix Q

Impacted daily living skills and ACE tests with outlier for Study 1a

Table Q1

Chi-Squared Tests for daily living skills with outlier

	Value	**df**	**p**
X^2	4.478	2	0.107
X^2 continuity correction	4.478	2	0.107
Likelihood ratio	4.902	2	0.086
N	78		

Table Q1

Cramer's V of daily living skills with outlier

	Value
Contingency coefficient	0.233
Phi-coefficient	NaN
Cramer's V	0.240

Note. [a] *Phi coefficient is only available for 2 by 2 contingency Tables*

Appendix R

Tests of normality for ACE score and daily living skills for Study 1a

Verbal skills	**.210**	**.272**	**.772**	**Y**	**-2.01**	**.538**	**-3.73**	**N**
ACEs	.275	.272	1.01	Y	-.719	.538	-1.34	Y
Daily living skills	.405	.274	1.48	Y	-1.87	.541	-3.45	N
ACEs	.278	.274	1.02	Y	-.675	.541	-1.25	N

Table R2
Test of Normality (Shapiro-Wilk) for Verbal skills and ACEs

		W	**p**
ACE TOTAL	Not Impacted	0.896	< .001
	Somewhat Impacted	0.967	0.364

Note. **Significant results suggest a deviation from normality.**

Table R3
Test of Equality of Variances (Levene's) for Verbal skills and ACEs

	F	**df_1**	**df_2**	**p**
ACE TOTAL	4.983	1	76	0.029

Table R4
Test of Normality (Shapiro-Wilk) for Daily living skills and ACEs

		W	**p**
ACE TOTAL	Not Impacted	0.930	0.009
	Somewhat Impacted	0.952	0.173

Note. Significant results suggest a deviation from normality.

Table R5
Test of Equality of Variances (Levene's) for Daily living skills and ACEs

	F	**df_1**	**df_2**	**p**
ACE TOTAL	0.710	1	75	0.402

Appendix S

Tests of assumptions for reoccurring abuse and behavioural skills for Study 1a

Table S1

Skewness and Kurtosis for behavioural characteristics and reoccurrence of abuse

	Skewness				Kurtosis			
Behavioural characteristic	Statistic	S/E	Value	Assumption Satisfied Y/N	Statistic	S/E	Value	Assumption Satisfied Y/N
Sexual behaviour	1.76	.361	.488	Y	2.46	.709	3.47	N
Pseudomature	-.107	.361	-.296	Y	-1.03	.709	-1.45	Y
Non-reciprocal	.206	.361	.571	Y	-.181	.709	-.255	Y
Indiscriminate	.023	.361	.064	Y	-.687	.709	-.970	Y
Insecure	-1.20	.361	-3.32	N	.862	.709	1.23	Y
Anxious/distrustful	-.794	.361	-2.20	Y	.140	.709	.197	Y
Abnormal pain	.054	.361	.150	Y	-.923	.709	-1.30	Y
Food maintenance	.031	.361	.086	Y	-1.32	.709	-1.86	Y
Self-Injury	.362	.361	1.00	Y	-.165	.709	-.233	Y

Table S2

Test of Normality (Shapiro-Wilk) for behavioural characteristics and reoccurrence of abuse

	Abuse	**W**	**p**
Sexual behaviour	No	0.826	0.019
	Yes	0.619	< .001
Pseudomature	No	0.934	0.429
	Yes	0.943	0.102
Non-reciprocal	No	0.954	0.699
	Yes	0.981	0.841
Indiscriminate	No	0.971	0.916
	Yes	0.964	0.372
Insecure	No	0.745	0.002
	Yes	0.867	0.001
Anxious/distrustful	No	0.900	0.159
	Yes	0.934	0.058
Abnormal pain	No	0.902	0.171
	Yes	0.953	0.187
Food maintenance	No	0.914	0.243
	Yes	0.922	0.027
Self injury	No	0.899	0.154
	Yes	0.944	0.105

Note. Significant results suggest a deviation from normality.

Table S3

Test of Equality of Variances (Levene's) for behavioural characteristics and reoccurrence of abuse

	F	**df_1**	**df_2**	**p**
Sexual behaviour	0.365	1	41	0.549
Pseudomature	0.090	1	41	0.766
Non-reciprocal	0.331	1	41	0.568
Indiscriminate	0.906	1	41	0.347
Insecure	0.814	1	41	0.372
Anxious/distrustful	0.049	1	41	0.826
Abnormal pain	1.944	1	41	0.171
Food maintenance	0.009	1	41	0.925
Self injury	0.001	1	41	0.974

Appendix T

Ethical clearance for Qualitative surveys

UNIVERSITY OF
GLOUCESTERSHIRE

Dr Emily Ryall
Research Ethics Committee Chair
Reader in Applied Philosophy

Oxstalls Campus,
Longlevens, Gloucester, GL2 9HW

Tel: [redacted]
Email: [redacted]

Via email

Kirsten Pearson
[redacted]

05 October 2023

Dear Kirsten

Thank you for your application for ethical approval.

I am pleased to confirm ethical clearance for your research following ethical review by the University of Gloucestershire's Research Ethics Committee (REC).

Please keep a record of this letter as official confirmation of your ethical approval.

Project Title:	'Understanding and responding to the therapeutic needs of Autistic Children who have experienced physical abuse'
Start Date:	29 June 2023
Projected Completion Date:	31 December 2024
REC Approval Code:	REC.22.53.4/2b

If you have any questions about ethical clearance please feel free to contact me. Please use your REC Approval Code in any future correspondence regarding this study.

Good luck with your research project.

Regards,

[redacted]

Dr Emily Ryall
Chair of Research Ethics Committee

Appendix U

Qualitative survey for Parents, guardians and caregivers

3. How old is your child?

4. What is your child's gender?

4.a. If you selected Other, please specify:

5. What race does your child most identify with?

5.a. If you selected Other, please specify:

6. Does your child have an official autism diagnosis?

6.a. If yes, please explain their official diagnosis. (If applicable, level of autism, any other diagnoses included with autism)

7. Please tell us a bit about your experiences with your child and when you first recognised signs of autism. (e.g. What types of behaviours were you seeing? What were their language skills like? What was their day to day life like?)

7.a. Please tell us about your journey seeking a diagnosis of autism with your child. (e.g. What made you seek a diagnosis? What was the process of getting a diagnosis? How old was your child? Were you referred to someone by your child's GP or teacher? Who gave the official diagnosis? And any other important things you experienced.)

8. Please tell us about your experience with treatment recommendations for your child when they were diagnosed with autism. (e.g. Were any types of therapy recommended? How accessible were treatment recommendations? How accessible was treatment?)

9. Please tell us a bit about how your child engaged with the services during their treatment. (e.g. What behaviours did you observe from them in sessions? Did they engage fully in sessions? What else did you notice?)

9.a. Tell us about what was found to be helpful about treatment for your child. (e.g. Were there certain aspects of treatment which seemed to help behavioural, cognitive, socio-emotional or any other characteristics? What types of things were done to help tailor the treatment to your child's needs? What other parts were found to be helpful?)

9.b. Tell us about what was found to be unhelpful for your child. (e.g. Were there certain things that did not help behavioural, cognitive, socio-emotional, or other any characteristics? Were there aspects of treatment which were not tailored to your child's needs? What other parts were found to be unhelpful?)

9.c. From your perspective, please tell us about what your child seemed to enjoy about therapy. (e.g. Did they enjoy certain techniques such as being able to use playing, art, music, or another component involved in their treatment? Did they enjoy learning coping skills or talking through certain things? What other aspects did they seemed to enjoy?)

9.d. From your perspective, please tell us about what your child did not seem to enjoy. (e.g. Did they not enjoy talking through things? Did they not enjoy certain exercises they might have had to do in a session? What other aspects did they not seem to enjoy?)

9.e. What changes did you see in your child after starting therapy? Please explain a bit about this. (e.g. What behavioural, socio-emotional, or cognitive changes did you see? What other changes did you notice?)

10. Please tell us about your experience with your child completing therapy. (e.g. Did they ever complete the treatment? Did the treatment come to a natural stopping point, or did it end for another reason? In your opinion, how did they seem to feel about treatment ending?)

10.a. How did you percieve your child's treatment as impacting on you and your child's life? (e.g. What were the successes of treatment? What were the failures of treatment?)

11. If comfortable, please tell us a little about the physical abuse your child experienced. (e.g. To your knowledge, when did the abuse first begin? Where did the abuse occur? How long did the abuse continue for? Who perpetrated the abuse? What were other important factors related to their experience?)

12. Looking back, how did the physical abuse effect your child's day to day life? Please explain what changes you saw in your child. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Were there changes in their independent or daily living skills? What were they? What other changes did you notice?)

13. Please share anything else that you feel is important.

14. Please explain a bit about your child's experience after the physcial abuse occurred. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Did these changes get worse? What other changes did you notice in your child?)

15. Please tell us about your child's experience with treatment after the abuse occurred. (e.g. Were there any treatment recommendations? What was recommended? Who made the recommendations? Was any type of treatment carried out?)

15.a. Please tell us about what parts of treatment were found to be helpful for your child.

15.b. Please tell us about what was found to be unhelpful.

15.c. From your perspective, please tell us about what parts of treatment were enjoyable for your child.

15.d. From your perspective, please tell us about what parts your child did not enjoy about their treatment.

15.e. Please explain a bit about any changes you noticed in your child during treatment. (e.g. What behavioural changes did you notice? What cognitive changes did you notice? What socio-emotional changes did you notice? What other changes did you notice?)

16. Please share anything else you feel is important.

17. Please tell us about your child now. (e.g. What are they like following treatment? Where are they in their life now? What things do they enjoy doing? What other things would you like to tell us about them now?)

17.a. Please tell us a bit about their current therapeutic situation. (e.g. Are they still in treatment? What are they in treatment for?)

17.b. From your perspective, what do they still struggle with? Please explain a bit about these. (e.g. What are the behavioural characteristics you still notice? What are the cognitive characteristics you still notice? What are the socio-emotional characteristics you still notice? What other things have you noticed they struggle with?)

17.c. From your perspective, what areas did your child most improve in? (e.g. Did they improve on certain behavioural, socio-emotional, or cognitive characteristics? Did they improve in any other areas?)

18. Please share anything else you feel is important.

Appendix V

2. How old are you?

3. What is your gender?

3.a. If you selected Other, please specify:

4. What race do you most identify with?

4.a. If you selected Other, please specify:

5. Do you have an official autism diagnosis?

5.a. If yes, please explain your official diagnosis. (if applicable, type of diagnosis, any other diagnosis alongside autism, who provided the diagnosis, when it was provided)

6. Please tell us a bit about your experiences in childhood and when signs of autism were first recognised. (e.g. What types of behaviours were you experiencing? What were your language skills like? What was your day to day life like?)

6.a. Please tell us about your journey in receiving a diagnosis of autism. (e.g. What was the process of getting a diagnosis? How old were you? Were you referred to someone by a GP or teacher? Who gave the official diagnosis? And any other important things you experienced.)

7. Please tell us about your experience with therapeutic recommendations at the time of your diagnosis. (e.g. Were any types of therapy or other support services recommended? Were the recommendations accessible for you and your family?)

8. Please tell us a bit about how you engaged with the services during your therapy or other support services. (e.g. How were you feeling during sessions? Did you notice yourself engaging in certain behaviours? Did you engage fully in sessions? What else did you notice during sessions?)

8.a. Tell us about what you found to be helpful about therapy or other support services as a child. (e.g. Were there certain aspects of treatment which seemed to help behavioural, cognitive, socio-emotional or any other characteristics? What types of things were done to help tailor the service to your needs? What other parts were found to be helpful?)

8.b. Tell us about what was found to be unhelpful. (e.g. Were there certain things that did not help behavioural, cognitive, socio-emotional, or other any characteristics? Were there aspects which were not tailored to your needs? What other parts were found to be unhelpful?)

8.c. Please tell us about what you enjoyed about therapy or your support service. (e.g. Did you enjoy certain techniques such as being able to engage in playing, art, music, or another component involved? Did you enjoy learning coping skills or talking through certain things? What other aspects did you enjoy?)

8.d. Please tell us about what you did not enjoy. (e.g. Did you not enjoy talking through things? Did you not enjoy certain exercises in a session? What other aspects did you not enjoy?)

8.e. What changes did you start to notice after therapy or your support service? Please explain a bit about this. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? What other changes did you notice?)

9. Please tell us about your experience with completing therapy or your support service. (e.g. Did you ever complete it? Did it come to a natural stopping point, or did it end for another reason? How did you feel about it ending?)

9.a. How did your therapy or support service impact on you and your family's life? (e.g. What were the successes? What were the failures?)

10. If you are comfortable to share with us, please tell us a little about the physical abuse you experienced. (e.g. To your knowledge, when did the abuse first begin? Where did the abuse occur? How long did the abuse continue for? Who perpetrated the abuse? What were relationships like with friends, family, or others during this time? What other important factors are there related to the abuse?)

11. Looking back, how did the physical abuse effect your day to day life? Please explain what changes you noticed in yourself. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Were there changes in your independent or daily living skills? What were they? What other changes did you notice?)

12. Please share anything else that you feel is important.

13. Please explain a bit about your experience after the physical abuse occurred. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Did these changes get worse? What other changes did you notice?)

14. Please tell us about your experience with therapy or support services after the abuse occurred. (e.g. Were there any recommendations? What was recommended? Who made the recommendations? Was any type of thearpy or service was carried out?)

14.a. Please tell us about what parts of therapy or your support service were found to be helpful.

14.b. Please tell us about what was found to be unhelpful.

14.c. Please tell us about what parts were enjoyable.

14.d. Please tell us about what parts you did not enjoy.

14.e. Please explain a bit about any changes you noticed. (e.g. What behavioural changes did you notice? What cognitive changes did you notice? What socio-emotional changes did you notice? What other changes did you notice?)

15. Please share anything else you feel is important.

16. Please tell us about yourself now. (e.g. What are you like following therapy or your support service? Where are you in life now? What things do you enjoy doing? What other things would you like to tell us about you now?)

16.a. Please tell us a bit about your current therapeutic situation. (e.g. Are you still in therapy or a support service? What are you in therapy or your support service for?)

16.b. What things do you still struggle with? Please explain a bit about these. (e.g. What are the behavioural characteristics you still notice? What are the cognitive characteristics you still notice? What are the socio-emotional characteristics you still notice? What other things have you noticed you struggle with?)

16.c. What seemed to improve for you after therapy or your support service for your abuse? (e.g. Did certain behavioural, socio-emotional, or cognitive characteristics improve? Did any other areas improve?)

Appendix W

Information sheet for autistic adults for qualitative phase

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

Researcher

Kirsten Pearson

Aim of research

This survey aims to determine the experiences and therapeutic needs of autistic children who have experienced physical abuse.

Why this research is being carried out

Autistic children are more likely to experience adverse childhood experiences such as physical abuse. Despite this link, research exploring this topic is scarce. This survey provides an opportunity for autistic adults who have experienced childhood physical abuse to share their experience, in order to provide a much needed exploration into this topic. This survey is part of a wider research project which aims to gather in depth information in order to create a therapeutic tailored intervention for autistic children who have experienced physical abuse.

What the study entails

The qualitative survey will begin by asking about general information (such as your gender, your autism spectrum condition diagnosis, and therapeutic services you may have received in childhood). You will then be asked further questions which pertain to the childhood abuse experienced and therapeutic experiences including questions about general experiences in therapy, which components were helpful, which components were enjoyable, which components were not useful, and overall experiences of therapy. If you do not wish to answer any questions you may skip these and leave them blank.

Following the qualitative survey, you will be debriefed about the specific aims of the study and will be provided, again, with the contact details of the researcher. Should you wish to ask any questions or withdraw your data within 2 weeks of your participation, please contact the researcher (Kirsten Pearson).

Please only participate if you are 18 years old or above.

Do I have to take part?

No. It is up to you to decide to volunteer for the study. After reading the information sheet, if you have any questions, you can contact the researcher. You are free to withdraw from the study (without giving a reason) at any point during the study itself and within 2 weeks of your participation by emailing the researcher with your unique identifier.

Descriptions of risks

As the subject matter of this research can be quite sensitive, there may be some questions which can be difficult for certain individuals. Please do not answer any questions that you do not feel comfortable with and note that you can stop participating at any time by simply closing the browser and discontinuing the survey. Should there be any negative affects experienced due to the subject matter of the questions, please discontinue the survey and call your GP or the Samaritans hotline, listed below.

Samaritans' hotline UK: 116 123

Or for information on your country's mental health helplines please visit: https://checkpointorg.com/global/

Confidentiality

As a researcher working with human participants there is a duty of care, meaning there may be certain circumstances in which confidentiality has to be broken. According to the British Psychological Socities guidelines a researcher may breach confidentiality if the health, safety, security, or welfare of you or someone else is put at risk or should there be any legal or safeguarding issues. Examples of legal or safeguarding issues include disclosing information of an ongoing crime, disclosing information of terrorist activities, or disclosing any information which may interfere with an investigation.

Anonymity of data and Storage of data

All identifiable information, including names, dates, and places, will be changed to be made anonymous upon transcription. As data will be made anonymous you will need to create a unique identifier. Your unique identifier prevents personal details from being linked directly with your data. This will consist of the first three letters of your parent's name (if known, mother's birth name is suggested to use) and the first three numbers of your date of birth.

All data will be kept securely in line with Data Protection legislation and with the University of Gloucestershire's Privacy Policy (see https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf). All identifiable information will be anonymised upon transcription; meaning names, places, or any other identifiable information will be changed. Please note that the results from this study may be written up for publication in an academic journal.

What will happen if I do not want to carry on with the research?

All participants have the right to withdraw at any time during the study for any reason which does not need to be disclosed to the researcher. If, at any time, you wish to withdraw from the study then you can close the browser and if you complete the survey and wish to withdraw, please email the researcher with your unique identifier within 2 weeks of your participation.

Who has reviewed this study?

All research is assessed by an independent panel of people, called a University Research Ethics Committee. This study has been reviewed and approved by the Research Ethics Committee at the University of Gloucestershire. If you would like to discuss any issues related to the ethics of this study then please contact the chair of the Research Ethics Committee, Dr Emily Ryall, [redacted]

Contact information

Kirsten Pearson, PhD Researcher: [redacted]
Dr Danielle Stephens-Lewis, Supervisor: [redacted]
Dr Kim Schenke, Supervisor: [redacted]
Dr Emily Ryall, Chair of the Research Ethics Committee [redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

You are advised to keep a copy of this information sheet for your records.

Appendix X

Information sheet for parents, guardians, or caregivers for qualitative phase

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

Aim of research

This survey aims to determine the experiences and therapeutic needs of autistic children who have experienced physical abuse.

What the study entails

The qualitative survey will begin by asking about general information about you and the child in your care (such as your child's gender, level of autism spectrum disorder, and therapeutic services the child in your care may have received). You will then be asked further questions about the child in your care which pertain to the abuse experienced and therapeutic experiences including questions about general experiences in therapy, which components were helpful, which components were enjoyable, which components were not useful or effective for your child, and overall experiences of therapy.

Following the qualitative survey, you will be debriefed about the specific aims of the study and will be provided, again, with the contact details of the researcher. Should you wish to ask any questions or withdraw your data within 2 weeks of your participation, please contact the researcher.

Please only participate if you are 18 years old or above.

Do I have to take part?

No. It is up to you to decide to volunteer for the study. After reading the information sheet, if you have any questions, you can contact the researcher. You are free to withdraw from the study (without giving a reason) at any point during the study itself and within 2 weeks of your participation by emailing the researcher with your unique identifier.

Descriptions of risks

As the subject matter of this research can be quite sensitive, there may be some questions which can be difficult for certain individuals. Please do not answer any questions that you do not feel comfortable with and note that you can stop participating at any time by simply closing the browser and discontinuing the survey. Should there be any negative affects experienced due to the subject matter of the questions, please discontinue the survey and call your GP or the Samaritans hotline, listed below.

Samaritans' hotline UK: 116 123

Or for information on your countries mental health helplines please visit: https://checkpointorg.com/global/

Confidentiality

As a researcher working with human participants there is a duty of care, meaning there may be certain circumstances in which confidentiality has to be broken. According to the BPS guidelines a researcher may breach confidentiality if the health, safety, security, or welfare of you or someone else is put at risk or should there be any legal or safeguarding issues. Examples of legal or safeguarding issues include disclosing information of an ongoing crime, disclosing information of terrorist activities, or disclosing any information which may interfere with an investigation.

Anonymity of data and Storage of data

All identifiable information, including names, dates, and places, will be changed to be made anonymous upon transcription. As data will be made anonymous you will need to create a unique identifier. Your unique identifier prevents personal details from being linked directly with your data. This will consist of the first three letters of your parent's name (if known, mother's birth name is suggested to use) and the first three numbers of your date of birth.

All data will be kept securely in line with Data Protection legislation and with the University of Gloucestershire's Privacy Policy (see https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf). All identifiable information will be anonymised upon transcription; meaning names, places, or any other identifiable information will be changed. Please note that the results from this study may be written up for publication in an academic journal.

What will happen if I do not want to carry on with the research?

All participants have the right to withdraw at any time during the study for any reason which does not need to be disclosed to the researcher. If, at any time, you wish to withdraw from the study then you can close the browser and if you complete the survey and wish to withdraw, please email the researcher with your unique identifier within 2 weeks of your participation.

Who has reviewed this study?

All research is assessed by an independent panel of people, called a University Research Ethics Committee. This study has been reviewed and approved by the Research Ethics Committee at the University of Gloucestershire. If you would like to discuss any issues related to the ethics of this study then please contact the chair of the Research Ethics Committee, Dr Emily Ryall, [redacted]

Contact information

Kirsten Pearson, PhD Researcher: [redacted]
Dr Danielle Stephens-Lewis, Supervisor: [redacted]
Dr Kim Schenke, Supervisor: [redacted]
Dr Emily Ryall, Chair of the Research Ethics Committee [redacted]

This research has been approved by the University of Gloucestershire Research Ethics Committee.

You are advised to keep a copy of this information sheet for your records.

Appendix Y

Consent form for autistic adults for qualitative phase

Title of research Exploring the Experiences and Therapeutic Needs of Autistic Children When completed this form gives you informed consent to participate in the study. Please tick each box to indicate the acceptance of each statement.

- I have read the information sheet provided and understand what I am required to do in order to take part in this study
- I understand my rights as a participant, and I understand that I can withdraw my data from this research project at any time during the study and must do so within two weeks of my participation if I do not want my data being used
- I understand the aim of this study and that it is not intended to diagnose or treat any kind of mental disorder.
- I have had the opportunity to ask questions before consenting to participate in the study and am satisfied with the information sheet, or from adequately answered questions to the researcher.
- I understand that the data taken will be held confidentially and securely. And I understand that the information given will be processed and stored accordingly following the Data Protection Legislation, and that information provided may be held indefinitely by the university.
- I confirm that I consent to participate in this study.

Appendix Z

Consent form for parents, guardians, and caregivers for qualitative phase

Title of research Exploring the Experiences and Therapeutic Needs of Autistic Children When completed this form gives you informed consent to participate in the study. Please tick each box to indicate the acceptance of each statement.

- I have read the information sheet provided and understand what I am required to do in order to take part in this study
- I understand my rights as a participant, and I understand that I can withdraw my data from this research project at any time during the study and must do so within two weeks of my participation if I do not want my data being used
- I understand the aim of this study and that it is not intended to diagnose or treat any kind of mental disorder.
- I have had the opportunity to ask questions before consenting to participate in the study and am satisfied with the information sheet, or from adequately answered questions to the researcher.
- I understand that the data taken will be held confidentially and securely. And I understand that the information given will be processed and stored accordingly following the Data Protection Legislation, and that information provided may be held indefinitely by the university.
- I confirm that I am the parent, guardian, or caregiver of the child I am giving information about and that I am at least 18 years of age; and that I consent to participate in this study.

Appendix AA

Debrief form for autistic adults for qualitative phase

Title of Research
Exploring the Experiences and Therapeutic Needs of Autistic Children

Researcher
Kirsten Pearson

The study

Research has shown that children with autism are more likely to experience Adverse Childhood Experiences, including abuse. This survey aimed to explore the experiences and therapeutic needs of autistic children who have experienced physical abuse.

Therefore, you were asked about the abuse that occured and about experiences in therapy. This will help to give an in-depth view into the experiences of autistic children who have experienced physical abuse and help to determine the successful components of therapy and other associated factors.

Data

All identifiable data will be changed to protect your identity and the identity of anyone invovled. As such, your data will remain anonymous and confidential, and so findings will not be traceable to you. This study will be written up and this, alongside the anonymised dataset, may be published in an academic journal. Any personally identifiable information will be stored securely and destroyed at the end of the project.

All information will be kept securely and processed in line with the British Psychological Society and the University of Gloucestershire ethical guidelines with personal information processed in compliance with data protection legislation. To read more about the university privacy policy for research participants please follow this link: https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf.

What if I do not wish to have my data used?

If you would like to withdraw your results, please email the researcher your unique identifier (the first three letters of one of your parents' birth names and the first three numbers of your date of birth) within two weeks of your participation - any requests to withdraw after this time may not be actionable as the data may already have been anonymously entered for analysis.

Confidentiality

As a researcher working with human participants there is a duty of care, meaning there may be certain circumstances in which confidentiality has to be broken. According to the British Psychological Societies guidelines a researcher may breach confidentiality if the health, safety, security, or welfare of you or someone else is put at risk or should there be any legal or safeguarding issues. Examples of legal or safeguarding issues include disclosing information of an ongoing crime, disclosing information of terrorist activities, or disclosing any information which may interfere with an investigation.

Anonymity of data and Storage of data

All identifiable information, including names, dates, and places, will be changed to be made anonymous upon transcription. As data will be made anonymous you will need to create a unique identifier. Your unique identifier prevents personal details from being linked directly with your data. This will consist of the first three letters of your parent's name (if known, mother's birth name is suggested to use) and the first three numbers of your date of birth.

All data will be kept securely in line with Data Protection legislation and with the University of Gloucestershire's Privacy Policy (see https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf). All identifiable information will be anonymised upon transcription; meaning names, places, or any other identifiable information will be changed. Please note that the results from this study may be written up for publication in an academic journal.

Appendix BB

Debrief form for parents, guardians, and caregivers for qual phase

Title of Research

Exploring the Experiences and Therapeutic Needs of Autistic Children

The study

Research has shown that children with autism spectrum disorder are more likely to experience Adverse Childhood Experiences, including abuse. This survey aimed to explore the experiences and therapeutic needs of autistic children who have experienced physical abuse.

Therefore, you were asked about the abuse that occured and about experiences in therapy. This will help to give an in-depth view into the experiences of autistic children who have experienced physical abuse and help to determine the successful components of therapy and other associated factors.

Data

All identifiable data will be changed to protect your identity and the identity of anyone invovled. As such, your data will remain anonymous and confidential, and so findings will not be traceable to you. This study will be written up and this, alongside the anonymised dataset, may be published in an academic journal. Any personally identifiable information will be stored securely and destroyed at the end of the project.

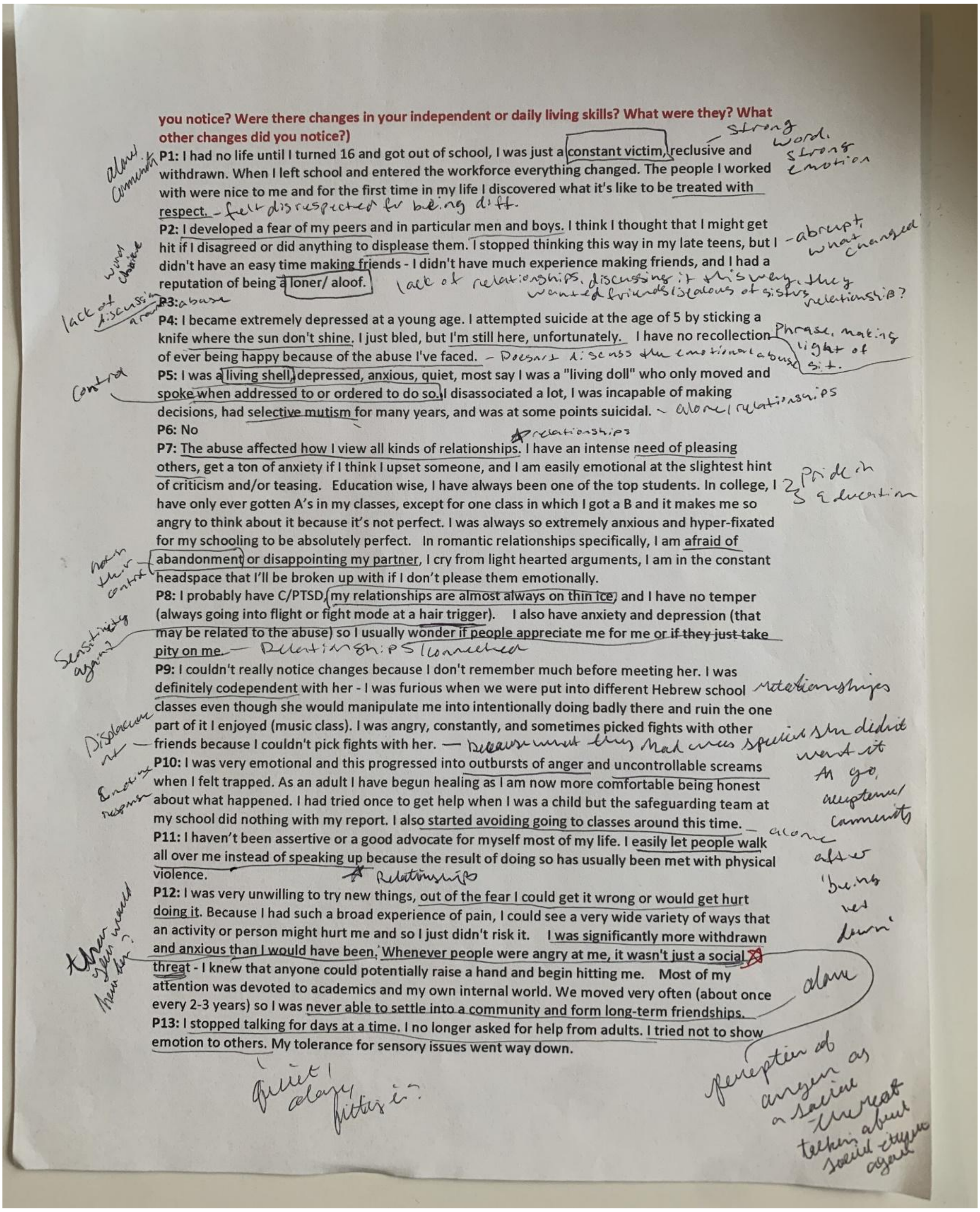
All information will be kept securely and processed in line with the British Psychological Society and the University of Gloucestershire ethical guidelines with personal information processed in compliance with data protection legislation. To read more about the university privacy policy for research participants please follow this link: https://www.glos.ac.uk/docs/download/Privacy-notices/Research-Participants-Privacy-Notice.pdf.

What if I do not wish to have my data used?

th If you would like to withdraw your results, please email the researcher your unique identifier (the first three letters of one of your parents' birth names and the first three numbers of your date of birth) within two weeks of your participation - any requests to withdraw after this time may not be actionable as the data may already have been anonymously entered for analysis.

Appendix CC

Illustrative example of exploratory noting



you notice? Were there changes in your independent or daily living skills? What were they? What other changes did you notice?)

alone/ community

P1: I had no life until I turned 16 and got out of school, I was just a constant victim, reclusive and withdrawn. When I left school and entered the workforce everything changed. The people I worked with were nice to me and for the first time in my life I discovered what it's like to be treated with respect. - felt disrespected for being diff.

- strong word. strong emotion

word choice

P2: I developed a fear of my peers and in particular men and boys. I think I thought that I might get hit if I disagreed or did anything to displease them. I stopped thinking this way in my late teens, but I didn't have an easy time making friends - I didn't have much experience making friends, and I had a reputation of being a loner/ aloof. lack of relationships. discussing it this way, they wanted friends/jealous of sisters relationship?

- abrupt, what changed

lack of discussion around

P3: abuse

P4: I became extremely depressed at a young age. I attempted suicide at the age of 5 by sticking a knife where the sun don't shine. I just bled, but I'm still here, unfortunately. I have no recollection of ever being happy because of the abuse I've faced. - Doesn't discuss the emotional abuse

Phrase, making light of sit.

control

P5: I was a living shell, depressed, anxious, quiet, most say I was a "living doll" who only moved and spoke when addressed to or ordered to do so. I disassociated a lot, I was incapable of making decisions, had selective mutism for many years, and was at some points suicidal. ~ alone/relationships

P6: No

relationships

P7: The abuse affected how I view all kinds of relationships. I have an intense need of pleasing others, get a ton of anxiety if I think I upset someone, and I am easily emotional at the slightest hint of criticism and/or teasing. Education wise, I have always been one of the top students. In college, I have only ever gotten A's in my classes, except for one class in which I got a B and it makes me so angry to think about it because it's not perfect. I was always so extremely anxious and hyper-fixated for my schooling to be absolutely perfect. In romantic relationships specifically, I am afraid of abandonment or disappointing my partner, I cry from light hearted arguments, I am in the constant headspace that I'll be broken up with if I don't please them emotionally.

Pride in education

not in their control

Sensitivity again?

P8: I probably have C/PTSD, my relationships are almost always on thin ice, and I have no temper (always going into flight or fight mode at a hair trigger). I also have anxiety and depression (that may be related to the abuse) so I usually wonder if people appreciate me for me or if they just take pity on me. - Relationships/connection

P9: I couldn't really notice changes because I don't remember much before meeting her. I was definitely codependent with her - I was furious when we were put into different Hebrew school classes even though she would manipulate me into intentionally doing badly there and ruin the one part of it I enjoyed (music class). I was angry, constantly, and sometimes picked fights with other friends because I couldn't pick fights with her. — because what they had was special she didn't want it to go, acceptance/ community

relationships

Displaced it

Emotional response

P10: I was very emotional and this progressed into outbursts of anger and uncontrollable screams when I felt trapped. As an adult I have begun healing as I am now more comfortable being honest about what happened. I had tried once to get help when I was a child but the safeguarding team at my school did nothing with my report. I also started avoiding going to classes around this time. - alone

after 'being let down'

P11: I haven't been assertive or a good advocate for myself most of my life. I easily let people walk all over me instead of speaking up because the result of doing so has usually been met with physical violence.

Relationships

Knew they would hurt her?

P12: I was very unwilling to try new things, out of the fear I could get it wrong or would get hurt doing it. Because I had such a broad experience of pain, I could see a very wide variety of ways that an activity or person might hurt me and so I just didn't risk it. I was significantly more withdrawn and anxious than I would have been. Whenever people were angry at me, it wasn't just a social threat - I knew that anyone could potentially raise a hand and begin hitting me. Most of my attention was devoted to academics and my own internal world. We moved very often (about once every 2-3 years) so I was never able to settle into a community and form long-term friendships.

alone

P13: I stopped talking for days at a time. I no longer asked for help from adults. I tried not to show emotion to others. My tolerance for sensory issues went way down.

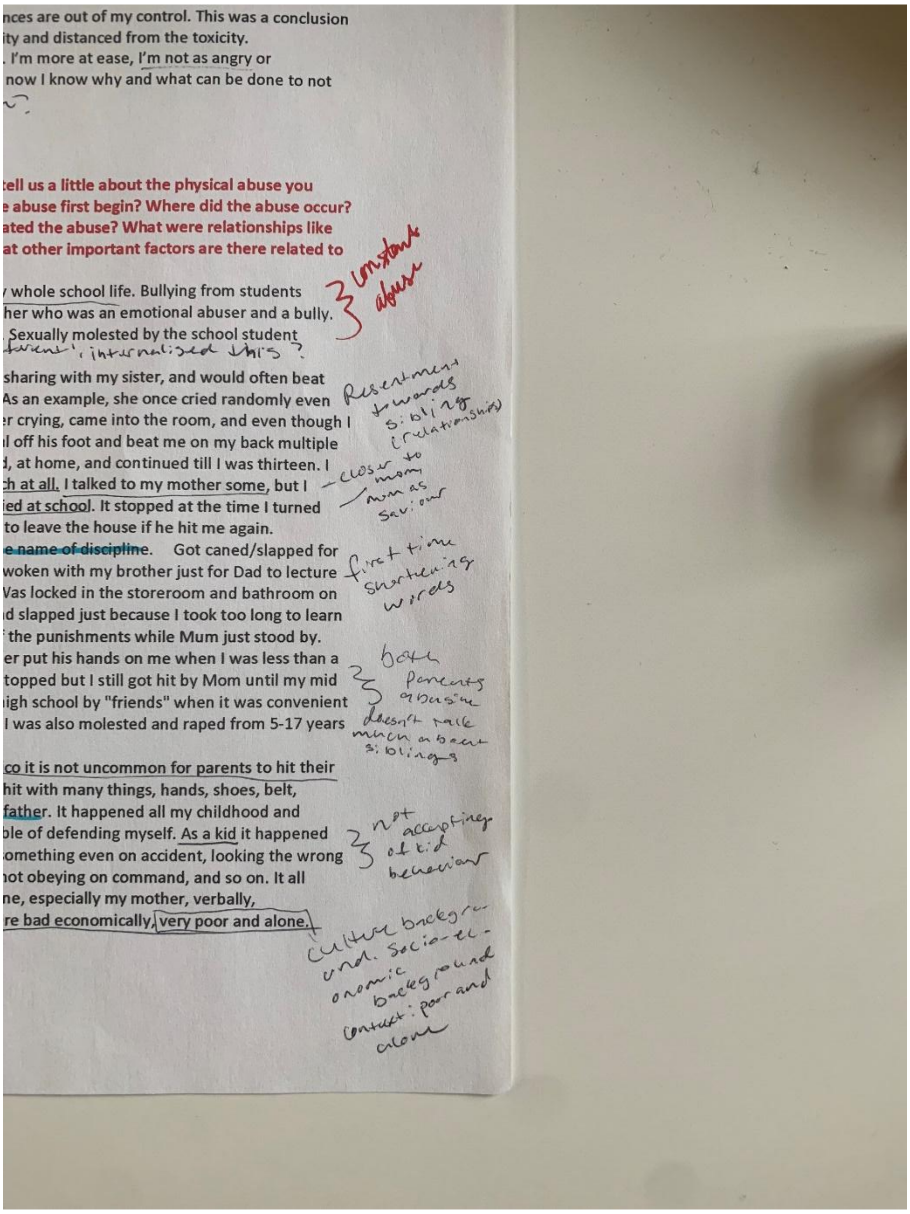
Quiet/ alone/ fitting in?

perception of anger as a social threat - talking about social etiquette again

Appendix DD

Experiential statements for qualitative phase

Below is an illustrative example of experiential statements for the qualitative survey. Please note that as exploratory noting and experimental statements were performed on the same hardcopy the page has been cropped for clarity.



nces are out of my control. This was a conclusion
ity and distanced from the toxicity.
. I'm more at ease, I'm not as angry or
now I know why and what can be done to not

tell us a little about the physical abuse you
e abuse first begin? Where did the abuse occur?
ated the abuse? What were relationships like
at other important factors are there related to

/ whole school life. Bullying from students
her who was an emotional abuser and a bully.
. Sexually molested by the school student
internalised this ?

constant abuse

sharing with my sister, and would often beat
As an example, she once cried randomly even
er crying, came into the room, and even though I
il off his foot and beat me on my back multiple
l, at home, and continued till I was thirteen. I
ch at all. I talked to my mother some, but I
ied at school. It stopped at the time I turned
to leave the house if he hit me again.

Resentment towards sibling (relationship)

closer to mom

mum as saviour

e name of discipline. Got caned/slapped for
woken with my brother just for Dad to lecture
Vas locked in the storeroom and bathroom on
ld slapped just because I took too long to learn
the punishments while Mum just stood by.
er put his hands on me when I was less than a
topped but I still got hit by Mom until my mid
igh school by "friends" when it was convenient
I was also molested and raped from 5-17 years

first time shortening words

both parents abusive

doesn't talk much about siblings

co it is not uncommon for parents to hit their
hit with many things, hands, shoes, belt,
father. It happened all my childhood and
ble of defending myself. As a kid it happened
omething even on accident, looking the wrong
not obeying on command, and so on. It all
ne, especially my mother, verbally,
re bad economically, very poor and alone.

not accepting of kid behaviour

culture backgr-und. Socio-ec-onomic background context: poor and alone

Appendix EE

Connections of statements for qualitative phase

In performing this analysis, it was clear to see that the autistic experience and abuse experience were heavily intertwined.

Feeling different

Alone/aloof

-always quiet

-difficulty making friends

-bullied by peers

'Not normal'

- seeking to find out 'what is wrong' (ASD)

-struggling where others don't seem to struggle

-enjoying activities younger kids would usually not like (reading alone)

-fear of never being 'normal' (in work, in gender roles, in society, in relationships)

The exhaustion and frustration of perceived judgment

-needing to mask all day, finding it difficult to

-not understanding 'intricate social etiquette'

-inability to make friends with neurotypicals due to not understanding social norms

- discussing abuse doesn't feel safe as it might change the way people see them

-scared to inflict their 'badness' onto others

Need for understanding/acceptance

Finding yourself

-seeking why there are differences

-seeking why abuse happened

-trying to find purpose in life

-changing jobs/hobbies/university degrees in attempt to find self

Finding community

-finding other autistic individuals to find comfort

-being diagnosed/having therapist who is autistic creates solidarity

-only being able to be friends with other autistic people, easier to get along with

Searching for reasons

-discipline/punishment as reason for abuse

-cultural difference, abuse is carried out as a form of punishment in Hispanic/Latino culture, normalising the abuse in a way

-Religious abuse

-abuse happened/went on for so long because of autism

Need for safety

Abuse was constant

-multiple types of abuse happening

-abuse occurred throughout life

Living in fear

- ‘people pleasing’ (good quote: “…I was a “living doll” who only moved and spoke when addressed or ordered to do so”)

-overreactive to things (the word ‘flinched’ is used throughout and across participants)

-fear of authority figures/men

-being quiet/reclusive in fear of being abused again

Difficulty in relationships

-trouble connecting with people

-fear of abandonment

-“what is love supposed to feel like?”

-trouble opening up

- fear of relationships

Control

-being in control of self

-being in control of situations

-cannot stand by and let other people be bullied now

-not seeking help to stay in control

-avoidance of men, avoidance of therapists to control outcomes

Being heard/validated

-finding a ‘safe’ person

-realising worth and validity

-feeling validated when trauma was accepted by others

Appendix FF

Full participant data for qualitative phase (includes both parents and adults)

Parent data is discussed as Pa, whereas adult data is discussed as P

Participant 1:

Age: 58

Gender: Male

Race: White/White British/Other White Background

Participant 2:

Age: 34

Gender: Female

Race: Asian/Asian British/Asian American

Official diagnosis: Yes

P3:
Age: 29

Gender: Female

Race: Asian/Asian British/Asian American

Official diagnosis: Yes

P4:
Age: 23

Gender: Non-Binary

Race: Mixed/Multiple Races

Official diagnosis: Yes

P5:
Age: 20

Gender: Agender

Race: Latin/Hispanic/Mexican

Official diagnosis: Yes

P6:
Age:35

Gender: Female

Race: White/White British/Other White Background

Official diagnosis: Yes

P7:
Age: 22

Gender: Female

Race: White Latina

Official diagnosis: Yes

P8:
Age: 18

Gender: Female, Transgender

Race: White

Official diagnosis: Yes

P9:
Age: 22

Gender: Male/Transgender

Race: White

Official diagnosis: Yes

P10:
Age: 25

Gender: Female

Race: White

Official diagnosis: Yes

P11:
Age: 41

Gender: Female

Race: White

Official diagnosis: Yes

P12:
Age: 35

Gender: Non-Binary

Race: White

Official diagnosis: Yes

P13:
Age: 45

Gender: Female

Race: White

Official diagnosis: Yes

5.a. If yes, please explain your official diagnosis. (if applicable, type of diagnosis, any other diagnosis alongside autism, who provided the diagnosis, when it was provided

P1: Diagnosed by AutismSA (south australia) in 2020 - ASD2

P2: Autism spectrum disorder, level 1 social communication, level 2 repetitive behaviours

P3: It was just point blank 'autism'. Back in the 90s, they didn't classify it by Levels yet. It was done by a public hospital in 1997

P4: ASD w/PTSD, MDD, and ADHD I was given this dx by a psychiatrist in 2017.

P5: Type of diagnosis: In-depth interview and clinical observation (use of Interview for the Diagnosis of Autism-Revised. ADOS Module 4 adolescents and adults, Winnie Dunnt sensory profile test.) Any other diagnosis alongside autism: GAD- Generalized Anxiety Disorder (previous diagnosis with another therapist) Who provided the diagnosis:Clinical Psychologist Citlali Limon Cañedo When it was provided: 2023, Mexico.

P6: High functioning autism, diagnosed 2023

P7: Done by University Mental Health Services: High probability for the diagnosis of ASD Severe to extreme range for OCD Moderate range for depression

P8: Professional Autism/ADHD/Dyslexia/Dyscalculia Diagnosis made by a french psychiatrist when I was 10yo.

P9: Asperger's Syndrome in 2014 provided by neuropsychologist Dr. Doty

P10: Diagnosed when I was 19 at the hampshire neurodevelopmental disorders clinic with autism spectrum disorder.

P11: I was diagnosed with autism less than a year ago, at 41 (by a psychologist specializing in autism in adults) I was diagnosed with ADHD at 37 (by several different mental health nurse practitioners) Prior to those diagnoses, I was diagnosed as having depression, anxiety, ppd and ptsd

P12:

P13: First diagnosed as a child, but the diagnosis was withheld from me, and I did not receive treatment. Rediagnosed with Autism Spectrum Disorder (DSM-5) as an adult

6. Please tell us a bit about your experiences in childhood and when signs of autism were first recognised. (e.g. What types of behaviours were you experiencing? What were your language skills like? What was your day to day life like?)

P1: I was born in 1965 but didn't get a diagnosis until 2020. Autism signs weren't recognised when I was a child so I was constantly punished by everyone around me for not being normal. They all believed I was weird on purpose. I was given public speaking lessons by a priest at age 7 because I went almost completely non-verbal, but that was the only consideration I ever received.

P2: N/A for therapy (diagnosed as an adult)

P3: This is based on parents' testimony before my diagnosis since I was just a toddler: - Non-verbal after 2 y.o. (basically missed milestone), wouldn't respond to calls or make eye contact - Only ate bread or rice - Would tear books and wallpaper. I could even tear the paper layer by layer. - Hyperactivity, spinning habit or liked to stare at the fan

P4: I always knew I was different. I didn't like certain textures, didn't like certain foods, didn't like being touched. I'd have frequent meltdowns when I was overstimulated and oftentimes would pull my hair out (trichotillomania) to calm myself down. I could talk very well at a young age, but I tended to repeat people's phrases, words, and mimick their accents for some reason. It felt like I had to. I'd get in trouble a lot for it. Speaking of which, when it came to talking to strangers, I could never do it. I always stayed quiet and could never say a word. It felt like my mouth was glued shut. I could only nod and hum. I still have issues with this now.

P5: I was late diagnosed, at 20 yrs old. There were signs in childhood. Very reactive to textures, monotone voice and face, lack of social mannerism and social understanding, trouble with communication, distinctive focus episodes where attention is hard to maintain or where there's hyperfocus on one thing, hard time dealing with change in routines, not much physical activity unless ordered to do so, robotic language skills, hyperfixation with animation.

P6: N/A not diagnosed until adulthood

P7: N/a

P8: I suffer from somewhat severe amnesia related to my childhood, so this will be short. I know that in primary school, I've been harassed enough to the point the abuse was physical, and that school administration did nothing. I had to be pulled out of school. Got back to school at about 10 years old, *before* getting my diagnosis. It was hard, mostly pulled through it, suffered from what I called "hypersensitivity" (turns out it was, in fact, sensory issues). Day to day life was pretty difficult, considering that if I wasn't in school, I was with my paternal grandparents (which I've cut ties with thanks to their physical abuse, 'discipline', their ableism, and their superiority complex). I couldn't say anything to my parents because they were either working at their restaurants, or too tired. If I tried to speak up, I was either ignored, or 'disciplined'. Got a diagnosis, didn't do much in terms of how I was treated. Language wise, I spoke normally, but - according to my maternal grandmother - loved it when she read me stories and learnt to read 'faster than average'

P9: I was born premature, at only 6 months gestation, so the vast majority of my milestones were delayed, but said delays were attributed to my premature birth rather than autism. My brother also has autism, so my mom could see the signs, but she deliberately didn't get me formally diagnosed after witnessing the way the school system treated my brother following his diagnosis. I was uncoordinated as a child, taken to physical and occupational therapy. I used to chew on my shirtsleeves. I was put into special education programs in elementary school, with the diagnosis being Nonverbal Learning Disorder, and I was also in support groups for siblings of autistic children. My mom always picked out my clothes because otherwise I would dress in mismatched outfits.

P10: My language skills were never really seen as an issue but I did exhibit social, attachment, and emotional issues from an early age. I did not like to play games with other children and could not wear certain clothing or eat certain foods without severe discomfort. I was withdrawn and easy to upset all throughout my childhood- it's hard to know whether this is a result of autism or being abused or both together. My pre-school teacher first brought up the issue of autism but my parents were not interested, they were not very well educated on the issue and so were naturally afraid of the label... to the point where they avoided allowing me to have my MMR vaccines. After that, teachers mostly just saw me as a sensitive child who cried at the drop of a hat, which meant every single day. This was clearly an annoyance to them. This continued until secondary school during which I had many instances of sensory overload and extreme discomfort as well as many more social problems. Somewhat luckily for me I had learned to be quiet and fade into the background Aso most kids did not bully me as they did not know that something was different about me until I got into situations where I had to communicate.

P11: I never knew I had autism as a child. I always felt different and found it difficult to relate to other kids. I chalked that up to being an only child of divorced parents. Looking back, I realize that I had to do things in a particular order or play a certain way with toys. Not because anyone made me, but because it felt right and anything else felt inherently wrong (not finishing one part of a meal before moving on; alternating bites of two different foods, still can't do it!). I've always been a bit verbose. I thought it was because my mother encouraged it and perhaps that is partially why. In general, I've always loved reading though now I gravitate to non-fiction. I've always had a strong sense of right and wrong. It irritates me still if I notice life/events/the world tilts so heavily in favor of one side. In high school I remember not having a set group of friends. I'd flit around from one to another, depending who I had class with. Lunch was a bit excruciating. I often didn't have it with people I was familiar with and I felt like I forced my way in to sit with people so I didn't appear to be such a loner. I felt singled out a lot by teachers and I often realized well past an event that I was the butt of jokes or taken advantage of. It was very common for me to come home from school and take a nap. I thought I wasn't sleeping enough at night at the time. Now I think it's because it took so much energy to get through each day.

P12: I was extremely quiet and highly sensitive. As a toddler, they could simply leave me in one place (and did) for hours on end and I would quietly remain there. I experienced a great deal of physical sensitivity to basic grooming - things like brushing my hair hurt, clipping my nails scared me (they hurt me while clipping my nails once), wearing fancy fabrics (like tulle and lace) hurt, and I hated being "wet" whether it was wet hair or wet grass on my feet. Clothing seams and tags bothered me a great deal. I was never able to acclimate to them and remained constantly aware of them all day. I struggled to connect with my peers, though adults found me precocious. Though I was ostracized, I genuinely just thought it was because I preferred to read and I enjoyed school. I thought those made me "uncool" but they were so pleasurable I didn't mind. It was only when I hit adolescence that the lack of connection combined with bullying really started to hurt.

P13:

6.a. Please tell us about your journey in receiving a diagnosis of autism. (e.g. What was the process of getting a diagnosis? How old were you? Were you referred to someone by a GP or teacher? Who gave the official diagnosis? And any other important things you experienced.)

P1: I self referred to AutismSA after hearing a bit about autism and realising that this was why I was different and struggling.

P2: I self-diagnosed in my late twenties and got an official diagnosis in my early thirties. The time from when I initially suspected I might be autistic to when I got an official diagnosis is about three years. The official diagnosis was by an evaluator at a psychological testing clinic that had marked on the psychology today page that they diagnosed autism in adult females.

P3: As mentioned above, parents took me to a psychologist for diagnosis. Was ard 2/3 when officially diagnosed. I had a therapist from US fly in often for specialised early intervention. Have no memory of it or other therapy however.

P4: I was almost 18 when I formally got dxed. I wasn't looking for this dx, but I was going to a psychiatrist because of my suicidal ideation and my eventual suicide attempt.

P5: I was 20 when I received a diagnosis. For the previous year or so I had my suspicions as I did my research and heard other autistic voices. I thought about all my childhood and adolescence where my teachers would suggest my parents a physiologist due to my unusual behavior. I just had many doubts because I'm on a female body and there has always been the believe that autism is more of a "boy's thing". But I found many women and non binary or agender femme presenting people who pushed me to get a diagnosis so I did just that. I found myself an association in Mexico called "Autistas de Mexico, A.C." and after an interview they referred me to licensed clinical physiologist Citlali Limon Cañedo who would later on diagnose me with Autism Type 1.

P6: 35 years old, referred to neuropsychology testing by my therapist

P7:

P8: Got my autism diagnosis at 10 years old thanks to a GP who reffered a psychiatrist to me. Same psychiatrist diagnosised me with ADHD.

P9: I was fourteen, towards the beginning of high school, and I was required to get a neuropsych done as the last one had been in elementary school. I'm not sure if the school system required the testing or the health insurance did, but regardless, the results were I was informed I had autism. I was horrified because I had always associated autism with my brother, who is also intellectually disabled.

P10: I was 19 when I got diagnosed. I went to my GP myself after learning about autism after picking up an informational leaflet and realising what was going on. My GP first told me that I 'don't look autistic' which I know is super cliche. My parents were not happy about me pursuing the diagnosis but my friends and partner all supported me, many of whom were autistic themselves. Though I will say, some of the comments on my diagnostic report were rather odd. For example, they made sure to note that my boyfriend was almost two years younger than me, as if that is evidence of me being autistic. Very strange!

P11:

P12: I have four sons. Two have an official diagnosis, though we (my husband, myself and oldest son) suspect my oldest son is also on the spectrum, just undiagnosed. I watched my two younger children get diagnosed, both with autism and ADHD. One of them appeared to feel so uncomfortable in his own skin. I could relate. The other has extreme hyperfocus on his special interests (I can relate, though my special interest just seems to be delving deeper into a topic). It wasn't until I ended contact with my mother due to a physical altercation that I really began to explore myself. I realized I had always been a chameleon; conforming to whatever I thought would make whoever I was trying to impress like me most. When I got married, I went with the wedding dress my mother preferred instead of what I actually liked because she knew best. I doubted my own judgment and abilities. During a lot of therapy and feeling like I wasn't an actual full-fledged person, I noticed that I was more like my kids than I expected. But as they've gotten older, their frustrations felt more familiar. I was first diagnosed with ADHD. I'd mentioned having focus issues to my mental health nurse practitioner. I'd start to do one thing, get sidetracked by something else, notice another thing and then forget what I was initially doing. She administered an ADHD test (does your mind wander? Do you sometimes have to read a paragraph multiple times? If something is uninteresting to you can you focus?, etc). The autism diagnosis I pursued on my own. In retrospect, I think I was trying to finish figuring out who I was/am and how my experiences have shaped me.

P13: I was initially examined by a neurologist after a head injury, who referred me to a psychiatrist who ten made the official diagnosis. I was 8 years old. When I was re-diagnosed as an adult, I asked for a referral from my psychiatrist and saw the person that he recommended.

7. Please tell us about your experience with therapeutic recommendations at the time of your diagnosis. (e.g. Were any types of therapy or other support services recommended? Were the recommendations accessible for you and your family?)

P1: I was offered the aid of support workers but never took them up on it.

P2: They suggested group therapy, which I didn't find in my area. For the most part, the official diagnosis helped me reach out to the autistic employees support group at work and talk to friends I had not talked to in a while. My primary method of getting help was in reading books written by autistic researchers and authors.

P3:

P4: Not that I remember.

P5: My licensed clinical physiologist Citlali Limon Cañedo who diagnosed me suggested therapy due to my sensory profile but that it would be my choice as a capable adult to do so. She said that if I was capable of doing it on my own then that would also be fine. Only certain members of my nuclear family know about my autism. I'm high functioning and I can mask pretty well so my family do not see support services as necessary.

P6: Executive functioning coach

P7:

P8: None. It was the "early age" of autism in France.

P9: I was already in therapy so nothing was specifically suggested regarding the autism diagnosis**.**

P10: I was given a list of websites to read more about autism, but was not offered any support upon my diagnosis. However, later on as I moved to a new city I made contact with a support service for autistic adults in plymouth which was moderately helpful I suppose as they were able to refer me to music therapy which was helpful for trauma. I also did recieve CAMHs support as a middle-teenager but this was related to psychosis symptoms resulting from anxiety and bullying, they did not know about the autism at that point.

P11: Lol, no. Because I'm adult, this is it. I'm an adult with a late autism diagnosis. I do find it beneficial to give in to my instincts. I don't force myself to socialize if I feel like a break is needed, I do what interests me instead of what I think would be best for me. I do still attend therapy which has been maybe the most beneficial thing for me. I have issues recognizing my emotions and why I feel the way I do. Therapy has helped me understand that.

P12: They didn't really make recommendations for me, honestly. I'm an adult, I've held full-time work, I do have a small number of friends, and a solid family. I'm already in therapy. I kind of wish they had recommended me workbooks and support groups, though. The help available for my daughter I am very grateful for though. Services for kids appear to be much broader in scope.

P13: I don't know what therapeutic recommendations were recommended when I was diagnosed as a child -- none of them were taken, so far as I know. No therapeutic recommendations were recommended to me as an adult.

8. Please tell us a bit about how you engaged with the services during your therapy or other support services. (e.g. How were you feeling during sessions? Did you notice yourself engaging in certain behaviours? Did you engage fully in sessions? What else did you notice during sessions?)

P1: I have never been to any therapy sessions. I'm autistic, not insane.

P2: N/a

P3: Can't recall, sorry

P4: I just remember being annoyed with my mother (who insisted she come in with me) arguing to the doctor that I didn't have autism because I wasn't... "r-slur". It was sick. I don't remember anything else.

P5:

P6: Not started yet

P7:

P8: N/a

P9:

P10: For the music therapy, I had a really good bond with the therapist. She did not once assert that she knew my truth better than me, and she was very open about discussing the sensory experiences of the room and eye contact, without pressuring me. She was okay with me saying somewhat unconventional or strange things, which I really appreciate as there's nothing worse than being treated like I'm a weirdo. In CAMHs, the therapist quickly recognised that I liked to draw and write so she brought that to every session.

P11:N/a

P12: N/a

P13: I did not go to any sessions.

8.a. Tell us about what you found to be helpful about therapy or other support services as a child. (e.g. Were there certain aspects of treatment which seemed to help behavioural, cognitive, socio-emotional or any other characteristics? What types of things were done to help tailor the service to your needs? What other parts were found to be helpful?)

P1: N/a

P2: N/a

P3: I did attend a daycare for special needs kids after kindergarten. It was a means for me to socialise and have semblance of activity

P4: Talking out my feelings and problems really helped. Also, my doctor recommended a stress ball or stim toy to help with my fidgeting and hair pulling.

P5:

P6: N/a received abuse through therapy as a child

P7:

P8: N/a

P9:

P10: I thinkk I answered this mostly in the above :)

P11: N/a

P12: n/a

P13: I did not attend any treatment.

8.b. Tell us about what was found to be unhelpful. (e.g. Were there certain things that did not help behavioural, cognitive, socio-emotional, or other any characteristics? Were there aspects which were not tailored to your needs? What other parts were found to be unhelpful?)

P1: N/a

P2: N/a

P3: Being told not to stim or to stop crying in public

P4: My doctor yielded to my mom's commands a lot, so I didn't really get to talk about everything.

P5:

P6: N/a

P7:

P8: N/a

P9:

P10: I can't think of anything that was particularly unhelpful, though i can imagine that the idea of being treated behaviourally alone would feel dehumanising to me. Or just not being considered in a holistic and adaptive way.

P11: Trying to force myself into a box that was not made for me. I tried so hard to emulate people I admired but I never got it quite right. If only I could be less weird, less questioning and really overall, more pleasant.

P12: N/a

P13: I did not partake in any treatment.

8.c. Please tell us about what you enjoyed about therapy or your support service. (e.g. Did you enjoy certain techniques such as being able to engage in playing, art, music, or another component involved? Did you enjoy learning coping skills or talking through certain things? What other aspects did you enjoy?)

P1: N/a

P2: N/a

P3:

P4: I enjoyed being able to get some things off my chest and being able to play with different stim toys while I talked.

P5:

P6: N/a

P7:

P8: N/a

P9:

P10: art and music helped me

P11: I have always loved art. I don’t feel like my style has ever been as distinctive as others’, but the way it calmed my mind was unlike anything else. Except maybe reading.

P12:N/a

P13: I did not partake in any treatment.

8.d. Please tell us about what you did not enjoy. (e.g. Did you not enjoy talking through things? Did you not enjoy certain exercises in a session? What other aspects did you not enjoy?)

P1:

P2:
P3:
P4: I didn't enjoy my mom being in the same room and my doctor yielding to her. I also didn't appreciate my doctor not listening to certain concerns I had (like getting bullied and teased at school because I was quiet and awkward.)
P5:
P6:
P7:
P8:
P9:
P10: Nothing comes to mind.
P11:
P12:
P13: I did not partake in any treatment.

8.e. What changes did you start to notice after therapy or your support service? Please explain a bit about this. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? What other changes did you notice?)
P1:
P2:
P3:
P4: I started to become a little more confident and understanding of what I was going through, so I didn't treat myself as badly.
P5:
P6:
P7:
P8:
P9:
P10: I benefitted from a deeper understanding of my emotions and trauma, as well as validation from an external person- understanding.
P11: Once I started doing Internal Family Systems with my therapist, I was able to better see how my experiences shaped me and why I am the way I am.
P12:
P13: I did not partake in any support services.

9. Please tell us about your experience with completing therapy or your support service. (e.g. Did you ever complete it? Did it come to a natural stopping point, or did it end for another reason? How did you feel about it ending?)
P1:
P2:
P3:
P4: It ended because my mom refused to believe anything was wrong with me, so we came to an abrupt end and things got bad again.
P5:
P6:
P7:
P8:
P9:

P10: It was hard to end the therapy I was receiving, mainly because it became a part of my weekly routine and i knew that picking it up again once i left would be really difficult if i needed to go back! luckily i didnt.

P11: It's ongoing.

P12:

P13: I did not partake in any treatment.

9.a. How did your therapy or support service impact on you and your family's life? (e.g. What were the successes? What were the failures?)

P1:

P2:

P3:

P4: I felt like I was kinda successful, but my family (especially my parents) didn't think so. They hated my budding confidence and my awareness of their abuse.

P5:

P6:

P7:

P8:

P9:

P10: I know that a lot of my negative family experiences are out of my control. This was a conclusion I came to through CAMHs. I took on less responsibility and distanced from the toxicity.

P11: I think everyone would agree it's been positive. I'm more at ease, I'm not as angry or overwhelmed. Those feelings still come around, but now I know why and what can be done to not succumb to the snowballing effect.

P12:

P13: I did not partake in any support services.

10. If you are comfortable to share with us, please tell us a little about the physical abuse you experienced. (e.g. To your knowledge, when did the abuse first begin? Where did the abuse occur? How long did the abuse continue for? Who perpetrated the abuse? What were relationships like with friends, family, or others during this time? What other important factors are there related to the abuse?)

P1: Constant bullying from students and teachers my whole school life. Bullying from students included quite a few savage beatings. I also had a father who was an emotional abuser and a bully. Approached and pestered by a paedophile at age 10. Sexually molested by the school student counselor at age 14.

P2: My father would hit me for minor issues e.g. not sharing with my sister, and would often beat me up for things I didn't do if my sister lied about it. As an example, she once cried randomly even though I wasn't interacting with her, and he heard her crying, came into the room, and even though I protested that I hadn't done anything, took his sandal off his foot and beat me on my back multiple times. This began from the time I was four years old, at home, and continued till I was thirteen. I didn't speak much with him, and I just didn't talk much at all. I talked to my mother some, but I didn't share much about my experience of being bullied at school. It stopped at the time I turned thirteen because my mother told him he would have to leave the house if he hit me again.

P3: Grew up with physical means of punishment in the name of discipline. Got caned/slapped for things such as back talking parents. One time, I was awoken with my brother just for Dad to lecture us on something. Rmbr there was a belt involved. Was locked in the storeroom and bathroom on diff occasions for hitting my siblings Was berated and slapped just because I took too long to learn how to use a bra at 12 y.o. Dad carried out most of the punishments while Mum just stood by.

P4: I wasn't beat as badly as my brothers, but my father put his hands on me when I was less than a year old, then again at 5. I don't remember when he stopped but I still got hit by Mom until my mid teens. Of course, I got beat very badly in middle and high school by "friends" when it was convenient (ex. If they didn't want to be bullied, they beat me.) I was also molested and raped from 5-17 years old by a plethora of people in my life.

P5: I've experienced abuse since I was a baby. In Mexico it is not uncommon for parents to hit their children as a way to discipline them. In my case I was hit with many things, hands, shoes, belt, cables, sticks, and so on, mostly from my mother and father. It happened all my childhood and became less common when I turned 15 and was capable of defending myself. As a kid it happened because of many things, making any noise, dropping something even on accident, looking the wrong way, saying the wrong word, having the wrong tone, not obeying on command, and so on. It all depended on my father who was abusive with everyone, especially my mother, verbally, emotionally, physiologically and economically. We were bad economically, very poor and alone.

P6: Parents slapped me for misbehaving

P7: The physical abuse started very young about preschool age. The abuse started off at home and continued till I was about seventeen. It was from my mother although as a child often babysat by my older sister, there were a few instances of being hit by her. In Hispanic/Latin culture physical discipline is normalized. I didn’t understand why my punishment was getting hit either with a hand, a belt, or a sandal. I had a good relationship with family and friends, but when there was even an inkling of potential punishment from something done/said I grew fearful and anxious amongst family and friends. As I got older in adolescence/teenage years, the anxiety was always there to please my mother by behaving good and doing excellent in school.

P8: I lived in a rural area with physical discipline being a norm for approximately 15 years. Pretty much everyone in my biological family, except for my maternal grandmother was in on it. I had no friends.

P9: I was best friends with a girl Grace from Kindergarten until 7th grade (so ages ~6 - 12). I had never had a friend before, so when arguments became physical I thought that was normal. The fact that girls being physically abusive on TV was seen as comedy probably aided in this normalization, as Grace and I often watched iCarly together. She always started the violence, but because I fought back, it didn't matter who started it, we would both be punished. I didn't really make many other friends until Grace left my elementary school in 2nd grade because she monopolized my time, and when I did make other friends, she was jealous of them and sometimes would hurt them because she was angry with me, so I tried to keep my other friends away from her, which only really solidified the feeling that what Grace and I had was special and different, that I was stronger for being willing to tolerate someone who physically hurt me and never apologized. My parents sometimes noticed the violence and tried to separate us, but I was loyal to Grace because I didn't know what abuse was or that it could happen between children.

P10: It was familial in nature, began when i was a very young child and continued until i was 16. This then morphed into emotional and verbal abuse onwards. The abuse occured predominantly in the family home. Relationships with family progressively deteriorated. Even though I needed help with what was going on, I didnt want to seek help from other adults because I was scared to lose control of the situation... Not that I ever had control.

P11: Though I'm sure it wasn't the first, the youngest I remember being was 6-7. My mother told me to come home by a certain time from playing at someone else's house. I got so caught up in playing I lost track of time. I went home and my mother yelled at me. Then she got on top of me and beat me with a hanger. Abuse with my mother was ongoing throughout my childhood/teenage years and somewhat into adulthood. My mother would often antagonize me and I would react (because I wasn't an adult) and then I'd be chastised for it. One of the last time we fought before I went to college was one of the worst. I can't remember what it was even about. I was getting ready to go to work and she came into the bathroom I was in and came at me. She shoved me into the bathtub. At this point, I was bigger than her and I couldn't just take it. I pushed back and we moved into the kitchen. Somehow I fell and she got on top of me. She went to slap me and I pushed her back. Her head hit the kitchen table and she started bleeding profusely. I was shocked. I didn't know what to do. She yelled at me to get to work. I did as I was told. She had to get stitches and I remember her being unhappy with me but somehow she also seemed to recognize that she played a part in it so I didn't get in as much trouble as I felt like I normally would have. During my teenage years I entered a romantic relationship with a boy where we were both guilty of physically abusing each other. I was often angry and jealous of people that I was close to and imagined that no one else was as terrible as I was.

P12: I've been abused my entire life. I was abused by my maternal grandparents, my mother, my sister, and four step-fathers. Mother - frequent neglect, repeated abandonment, gaslighting, and enabling others to continue their abuse Sister - physically violent and a bully. Would beat my mother and attempt to strangle her. Punched me, broke my glasses, and generally harassed me over being socially awkward, boring, or unfeminine. At a couple times, she humiliated me for the entertainment of her friends, such as coming up behind me while I was reading to pour a drink over my head. We weren't even fighting or hanging out. It was completely to make her visiting friend laugh. Grandmother - deeply religious abuse and a narcissist. Tried to make me believe I was a holy prophet (because of my propensity for picking up on and accurately predicting the outcomes of patterns) and often discussed physically horrifying things. Frequently talked about her own experiences with CSA and being abused my her parents. Accused anyone who didn't get along with her of being demon-possessed and would go on religious rampages to ostracize them. My sister was the most frequent target of this accusation. Also racially abused other people in front of us and defended pedophiles. Grandfather - physical abuse with a belt and obedient to grandma's every whim. When she wanted someone punished, he was the one who did it. He was also a pedophile and committed CSA against at least 3 members of the family, including myself. Stepfathers - most of them were just incredibly prone to harassing me for failing to exhibit proper deference to their authority. I was a stickler for rules and believed everyone should follow them equally, but they preferred the privilege of being in authority over others. I would hear them arguing about me to my mom or they would humiliate me to teach me a lesson, like threatening to kick me out because I hadn't specified a precise hour when a chore would be complete. Only one of them was physically violent and he was extreme. He was a pedophile as well and the one who abused me the longest. He was in my life between the ages of 2-7 and would beat me for every perceived transgression, whether it was failing to look him in the eye, crying because it hurt having my hair brushed, or having a B in school instead of an A. He also enacted religious trauma on me by describing Jesus' crucifixion in great detail when I misbehaved. His mantra was that every time I failed to obey him, I was putting Jesus back up on the cross again and hammering nails into his wrists. He would show me exactly where the nails went and dig his fingers in so I felt it too and told me I was the one doing that to the only person who truly loved me. I had serious difficulty being unkind or disobedient or angry as a child because I believed I was harming other people very deeply and I would rather die than hurt somebody. I bring up the religious trauma specifically because I believe my autistic patterns of thought made me uniquely vulnerable to believing them in a literal sense. I couldn't imagine that they would lie to me, let alone what a metaphorical interpretation of religion was, so I wound up living in a world where I regularly and consistently CRUCIFIED Jesus every time I did something hurtful or disobedient. I believed that my bad thoughts could have external, satanic origins. My mother would tell me "If you speak a fear out loud, the devil will hear it and make it come true." She told me he was powerful but not psychic, so if I talked about things, that was what made them real. So I couldn't talk about my abuse or how scared I was, because I literally believed words had the magic power to cause demons to attack. I believe that my autistic thought patterns are why it took me so long to realize that these things were not true and were intended to silence me about the abuse I endured. Another major factor in how and why I was abused revolved around my inability to perform femininity based on sensory factors. Doing my hair, wearing perfume and uncomfortable clothing, learning intricate social rules - none of it was within my reach. I have been humiliated and physically punished for these things, as they believed I could choose to comply and learn to live with the discomfort. It never mattered to them that the discomfort was constant and genuinely impossible to ignore. I did not identify as nonbinary when I was a kid, I was just a low-key girl who liked casual clothing and books. I did not understand why preferring pants to heavy skirts in the south of the US merited such rancor.

P13: physically abused by my mother. started at age 4 or 5, and continued until I was 16. abuse happened mostly at home, but sometimes outside of it. My father's job had him gone for 4 months out of the year - it made it easier for him to downplay the abuse and for her to hide it. I was bullied severely by my schoolmates until I was 12. I was emotionally abused for crying about this, or for asking for help. I stopped asking for help. I tried not to interact with anyone. I would hide in quiet, dark places just so I could calm down and think clearly.

11. Looking back, how did the physical abuse effect your day to day life? Please explain what changes you noticed in yourself. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Were there changes in your independent or daily living skills? What were they? What other changes did you notice?)

P1: I had no life until I turned 16 and got out of school, I was just a constant victim, reclusive and withdrawn. When I left school and entered the workforce everything changed. The people I worked with were nice to me and for the first time in my life I discovered what it's like to be treated with respect.

P2: I developed a fear of my peers and in particular men and boys. I think I thought that I might get hit if I disagreed or did anything to displease them. I stopped thinking this way in my late teens, but I didn't have an easy time making friends - I didn't have much experience making friends, and I had a reputation of being a loner/ aloof.

P3:

P4: I became extremely depressed at a young age. I attempted suicide at the age of 5 by sticking a knife where the sun don't shine. I just bled, but I'm still here, unfortunately. I have no recollection of ever being happy because of the abuse I've faced.

P5: I was a living shell, depressed, anxious, quiet, most say I was a "living doll" who only moved and spoke when addressed to or ordered to do so. I disassociated a lot, I was incapable of making decisions, had selective mutism for many years, and was at some points suicidal.

P6: No

P7: The abuse affected how I view all kinds of relationships. I have an intense need of pleasing others, get a ton of anxiety if I think I upset someone, and I am easily emotional at the slightest hint of criticism and/or teasing. Education wise, I have always been one of the top students. In college, I have only ever gotten A's in my classes, except for one class in which I got a B and it makes me so angry to think about it because it's not perfect. I was always so extremely anxious and hyper-fixated for my schooling to be absolutely perfect. In romantic relationships specifically, I am afraid of abandonment or disappointing my partner, I cry from light hearted arguments, I am in the constant headspace that I'll be broken up with if I don't please them emotionally.

P8: I probably have C/PTSD, my relationships are almost always on thin ice, and I have no temper (always going into flight or fight mode at a hair trigger). I also have anxiety and depression (that may be related to the abuse) so I usually wonder if people appreciate me for me or if they just take pity on me.

P9: I couldn't really notice changes because I don't remember much before meeting her. I was definitely codependent with her - I was furious when we were put into different Hebrew school classes even though she would manipulate me into intentionally doing badly there and ruin the one part of it I enjoyed (music class). I was angry, constantly, and sometimes picked fights with other friends because I couldn't pick fights with her.

P10: I was very emotional and this progressed into outbursts of anger and uncontrollable screams when I felt trapped. As an adult I have begun healing as I am now more comfortable being honest about what happened. I had tried once to get help when I was a child but the safeguarding team at my school did nothing with my report. I also started avoiding going to classes around this time.

P11: I haven't been assertive or a good advocate for myself most of my life. I easily let people walk all over me instead of speaking up because the result of doing so has usually been met with physical violence.

P12: I was very unwilling to try new things, out of the fear I could get it wrong or would get hurt doing it. Because I had such a broad experience of pain, I could see a very wide variety of ways that an activity or person might hurt me and so I just didn't risk it. I was significantly more withdrawn and anxious than I would have been. Whenever people were angry at me, it wasn't just a social threat - I knew that anyone could potentially raise a hand and begin hitting me. Most of my attention was devoted to academics and my own internal world. We moved very often (about once every 2-3 years) so I was never able to settle into a community and form long-term friendships.

P13: I stopped talking for days at a time. I no longer asked for help from adults. I tried not to show emotion to others. My tolerance for sensory issues went way down.

12. Please share anything else that you feel is important.

P1:

P2:

P3:

P4: I'm still in the same situation, but I'm trying my best to move out of here and move on with my life.

P5: I often wished to punish my father back for all the abuse, I had intrusive thoughts, bad thoughts of torturing him, of making him suffer all the damage he had done to my family. I never did, it all stayed in my mind and I'm now better.

P6:Primarily emotional abuse and various forms of neglect

P7:

P8:

P9:

P10:

P11:

P12: I think the biggest area of failure for me is connecting to people. You can only learn so much from observing group dynamics. A lot of nuanced behavior takes place behind closed doors, in whispered or giggled, private conversations that no one will ever share a rulebook on. There's no genuine way to break into that world, no matter how I try. I find that neurodivergent people are so easily shunted to the side and designated a black sheep for nothing more than "off vibes." I will work as hard as I can to be a good person, a good friend, and a good coworker, but there's a gnawing hurt deep inside of me that feels it's all useless to try when I know I will never be able to imitate or learn these rules well enough to avoid the inevitable discard and devaluation by others.

P13: Withholding my childhood diagnosis was a part of the abuse that was inflicted on me.

13. Please explain a bit about your experience after the physical abuse occurred. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Did these changes get worse? What other changes did you notice?)

P1: Changes have followed me throughout my whole life. I have a nervous disposition in public even if it's well masked. I'm constantly aware of everything that is going on all around me. I also get extremely angry when I see someone else being bullied and I'm unable to stop myself from intervening, yet when I'm getting attacked I turn back in to that small scared child again.

P2:

P3: I defo knew talking to parents about feelings wasn't going to work since they always believed they were right. Nvr had heart to hearts with them unlike my sister. Joy was the least thing I felt in tween years. At least Dad apologised for the bra incident 5 years after it happened.

P4: I became a lot more depressed, a lot more quiet and timid, and I flinched at the slightest breeze. My hair pulling began to get worse and I also masturbated for comfort.

P5: I flinch when I think someone wants to hurt me. I struggle with making decisions for myself. I know how to read and psychoanalyze people. I'm a people pleaser yet I'm very reactive and agressive when I sense someone threatening me. I struggled with emotional regulation. For a time, as a kid, I was too physically abusive to my sisters. I can't be calm enough when my father is in the same room with me, I can't love him, I don't feel comfortable when he touches me even if he's no longer physically abusive.

P6:

P7: I grew more anxious as a person. In school I was always the “teacher’s pet” because I had this fixation of pleasing any adult from teachers to friends’ parents. It never turned romantic/sexual, it was strictly in obeying the rules and expectations of being a student/teenager who never gets into trouble. As an adult, I have grown less anxious amongst other adults older than me. However, now that I no longer attend school, I feel incredibly lost in what to do. With school there was structure, there were expectations, and a place I thrived for perfection. My mother is happy I did so well in school, and I no longer seek to please her, but I don’t know who I am out of school.

P8: I don’t exactly remember

P9: I had never actually been afraid of her until the few incidents that preceded the end of our friendship. We broke into a swimming pool in the middle of the night at summer camp and she tried to drown me. She beat me with a wiffle ball bat. She outed me as a lesbian to the summer camp. That was the last straw and I threatened to kill her, being asked to leave the camp, and our friendship was over. I was honestly angry at myself because it was so easy for the friendship to end, it felt like I had suffered for six years simply because I was scared of being alone. I was terrified of her after the fact because it actually hit me how wrong everything that happened was. She had attempted to murder me.

P10: It made it difficult for me to judge which relationships are actually safe and what love is supposed to feel like. I am not very intuitive so it has taken a lot of abusive relationships after the familial abuse to finally feel like I'm ready and able to find a partner.

P11: I was scared. I’d usually run to my room and cry. I’d be out for the rest of the day. Just unable to really function in a normal capacity because I was so shaken up.

P12: I struggled to permit physical touch of any kind and flinched when approached or when I heard loud noises. I was extremely skittish, but also extremely quiet both verbally and in my movements. I still have a very light, mincing step and I try very hard not to make the floorboards creak. It has always made my heart race to step on creaky boards because I feel I'm going to get in trouble, even when I'm just moving from one room to the next. I was eventually able to achieve some tolerance to physical touch by forcibly and repeatedly exposing myself to cuddling with a flirty fellow for a few months. He was perfectly nice and although he clearly liked me and would try to kiss sometimes, he never pushed my boundaries. He also didn't seem bothered by the fact that I shook violently when he held me. I told him I was always cold and he believed me, which I was grateful for. It let me practice being held by a safe person until eventually the shivering stopped. Now I can do hugs and short-term cuddling without discomfort. Unfortunately I have never achieved comfort with sex. As a child, I was very trusting and forgiving. I strove to see the best in everyone. I wanted to understand WHY I was abused, not punish them for it. But I was so scared they would hurt me. I couldn't do anything but make myself smaller and smaller. I got so upset over making trouble for anybody. I never wanted to be a burden and it distressed me deeply every time it seemed like I might be wasting anyone's time or hurting their feelings.

P13: Distrust and dislike of all people and anything that the majority of people liked. Bullied severely by classmates until I was 12.

14. Please tell us about your experience with therapy or support services after the abuse occurred. (e.g. Were there any recommendations? What was

recommended? Who made the recommendations? Was any type of thearpy or service was carried out?)

P1: N/a

P2:N/a- I never got therapy for it

P3: None!

P4: I wasn't able to really come out with my abuse story until I was 20 with a new doctor and my mom backing down. I tried talk therapy for a while and was on antidepressants. They didn't help, but talk therapy did a little.

P5: At 17 I was able to afford therapy for myself, this was not the therapist who would later diagnose me at my 20s. It helped me deal with anxiety and depression, I stopped being suicidal and fixed a lot of wounds I had with my parents and sisters. I strengthened the relationship with my mom and managed to save the one with my dad, not for him, for me. I learned to be more decisive and regulate my emotions better. My anxiety attacks had now actions plans and I felt more in control. I had talk therapy with humanistic approach.

P6: Did not receive any

P7: I did some counseling in my first year of college three years ago. It focused on affirmations and seeking communications with those who I felt have done me wrong. The counselor was a Master's degree student being monitored by a supervisor.

P8: Only therapists I went to were either court ordered (Unrelated car accident that gave me another layer of trauma) or suggested by my mother The mother-suggested one pretty much used the law as a to do list, insulted me when I couldn't join in on the remote session due to a snow storm, told my mother to take away my computer when this happens (she told him rightously to fuck off). Came out to him as trans and pansexual, and mentionned that I was - at the time - one year clean of a self harm problem. It did not go over well. He told both my parents that I was actively suicidal. I reported him to the proper authorities, nothing came of it, never gonna see him again.

P9: I had been in therapy throughout the time I was being abused. I didn't talk about it because I thought it was normal. I switched therapists that year for other reasons, and didn't talk about it because I was trying to get into a gender clinic so I focused on discussing my gender dysphoria.

P10: With the abuse, nothing was done initially upon reporting it. Because of my experience as a child I actually did my placement year in a school SEN dept because I couldn't stand the thought of another child being ignored like I was. I found that helping others helped me and I really made a difference to the lives of some children. Other than that, I have been in therapy to help but I think it's been a case of time healing all wounds more than anything.

P11:

P12: I did not receive therapy until I was a legal adult and able to seek it on my own. I found a support group because I was entering a Psychology degree and the professor said people who didn't deal with their trauma when they were young would wind up dealing with it explosively when they got older and I didn't want to do that. I wanted to tackle it up front and break the cycle. So, I directed myself to a support group for survivors of CSA. From there, I began receiving talk therapy 1:1 from the group leader. I have had several therapists in the same vein since then.

P13: I did not access any services or treatments, and as far as I know none were ever recommended.

14.a. Please tell us about what parts of therapy or your support service were found to be helpful.

P1:

P2: N/A - what has helped me is talked about this experience with close friends in late high school and college. What really helped is the acknowledgment that this experience was not normal and I had a right to distance myself from my father.

P3:

P4: Talk therapy and figuring out ways to mitigate the abuse.

P5: Writing exercises and imagining scenarios. Writing helped organize my ideas, imagining felt safe because disassociation was my safe space.

P6:

P7: It felt helpful to actually talk to someone in a safe space, and just vent about what weighs me down.

P8: Court ordered therapist : Helped me deal with some of the trauma that came with being ran over by a car Other one : N/A

P9:

P10: It's hard to tell.

P11:

P12: I greatly appreciated having honest sounding boards who could help give me insight into the actions of other people AND stop dwelling on them. I have been most impressed by therapists who are able to give me concrete and straightforward instructions on how to approach situations in non-conventional ways. For example, my current therapist recommended I make a new email address to contact my mother so her notifications wouldn't pop up on my phone unexpectedly and ruin my day with anxiety. This way, I could choose to engage with her contact only when I was in a stable enough place to do so.

P13: I did not access any services or treatments.

14.b. Please tell us about what was found to be unhelpful.

P1:

P2: N/A - didn't do official therapy

P3:

P4: The antidepressants.

P5: Rage exercises where you had to scream or punch pillows, I never could, I didn't have the energy or I just simply couldn't, not after so many years of selective mutism.

P6:

P7: The counselor was not a right fit for me. I didn’t like the suggestion of telling people who have hurt me that they have done me wrong. I did not like the unsolicited opinion of what they would do in my situation.

P8: Court ordered therapist : Logistics issues (didn't accept to do remote consults) Other one : He's the reason why I'm still no longer seeing any therapists or mental health professionals.

P9:

P10: Unsure

P11:

P12: I have strong objections to CBT and it never goes well for me. Many of the statements from the workbooks require me to minimize my experiences or outright deny my reality or take the blame for things that are not my fault. I can't bring myself to accept them without feeling like I am deceiving myself. Ex: Forcing me to say "It's all going to be okay." Well, how do you know? How could I possibly know if it really is going to be okay? I can rattle off a dozen reasons right now why it's not going to be okay; why force me to lie to myself when I can't lie that convincingly?

P13: I did not access any services or treatments.

14.c. Please tell us about what parts were enjoyable.

P1:

P2:

P3:

P4: Finding a good and compassionate therapist who listened to me and cared about my progress

P5: Talking about healing, the validation of my feelings, the recognition of my strength and my role in the family. Learning to love and accept myself, questioning who I was, am, and wanted to be.

P6:

P7: I enjoyed the secluded and calming environment.

P8: Court ordered therapist : None that really came to mind, she just respected that I was traumatized by the accident, so...feeling validated ?

P9:

P10: Being validated in my experiences

P11:

P12: I liked when I could share pieces of myself that the therapists liked. I find music expresses my mental state much better than I can verbalize sometimes and one of my favorite therapists would let me play her a song for the last 5 minutes of every session so that I could share how it was relevant to my life at the moment. We genuinely discussed the pieces and it meant a lot to me. I truly felt like she saw ME and that mattered a lot to my trust in her. I feel so invisible sometimes. Being seen in the way I'd like to be seen mattered so much.

P13: I did not access any services or treatments.

14.d. Please tell us about what parts you did not enjoy.

P1:

P2:

P3:

P4: The fact I had to open up about decades long abuse and trauma.

P5: Remembering. I remembered so many suppressed memories and it was like living them again. It was very painful.

P6:

P7: I did not enjoy the counselor’s unsolicited opinion on how they would handle my issues.

P8: Mother suggested therapist : All of it, genuinely. He never actually helped. I have rarely felt so bad after leaving a professional's office.

P9:

P10: People assuming how I felt I suppose

P11:

P12: My first therapist pressured me to disclose details about my csa. I did not believe I needed to dredge up the specifics of the memories to face their effects on me in the present day and just wanted my anxieties to go away. I do not enjoy therapists who are particularly insistent on making me go through a particular treatment. Though I'm always grateful for their professional advice, I try to carefully research and understand what a treatment is before agreeing to it. Some approaches seem ill suited for me personally. I struggled with having to tell them no more than once. When that happened, I usually dropped the therapist and couldn't go back. I also hated having to disclose what's happened to me again and again and again. The things that have happened to me could fill a book and it makes me sick to think about any of it. I hate showing those bad events to people. It makes me feel dirty and like it changes the way people see me. Sometimes I also feel like I am capable of infecting people with my bad, depressive thoughts. I feel like I grapple with existential questions or I take in too much bad news about the world at times and it has distressed me very deeply to realize that grappling with these questions bother other people too. As a result, I often found myself worried about the mental health of my therapists because I didn't want them taking home the awful things that have happened to me or getting dragged down by my existential crises.

P13: I did not access any services or treatments.

14.e. Please explain a bit about any changes you noticed. (e.g. What behavioural changes did you notice? What cognitive changes did you notice? What socio-emotional changes did you notice? What other changes did you notice?)

P1:

P2:

P3:

P4: Again, I became more confident and less suicidal. Because of therapy, I even have friends who aren't abusive, who care about me, and who talk to me almost every day. I can open up more and I find talking to strangers less intimidating, although it's still hard to do so.

P5: I had better emotional regulation, I could be vulnerable with people I trust, I fixed many broken family relationships. I could now cry and feel emotions. I could feel. I had better coping mechanisms.

P6:

P7: With how unhappy I was talking to a counselor about my issues, it did encourage me to seek support through my friends and partner. Overtime, I became more open about what bothers me because having to pretend I was fine, was ruining my mental health and keeping me from being able to function every day.

P8: Before the court ordered therapist : I was no longer able to get in a car or bus, to the point where I had to delay passing my bike license by 6 months and was either walking to my destination or taking a train. She helped me deal with that, and I can now get in a car (still not at the wheel). After the other therapist, I simply do not feel comfortable seeing any mental health professional until I'm entirely independant.

P9:

P10: Being able to develop cognitive strategies to choose better relationships and respect myself as an independent and functional person. I haven't always felt like it was possible for me to look after myself but now I do.

P11: I withdrew a lot. Part of it was noticing my increasing awkwardness as I got older and another part was thinking I was just this awful person that no one else should have to tolerate.

P12: I find myself much calmer and better able to have hope when I'm in therapy. Having someone validate and explore my perspectives, unpack deep worries and make action plans is so helpful. I need some way of expunging these kinds of awful things from inside of me because I can't seem to get rid of them on my own. I really struggle with rumination and therapy is one of the only things that helps contain it because I tell myself "it's okay to put this aside for now since you'll be able to talk about it in therapy"

P13: I did not access any services or treatments

15. Please share anything else you feel is important.

P1:

P2:

P3:

P4: I think I've said everything

P5:

P6:

P7:

P8: "Court ordered" isn't the best word, it was mostly insurance mandated to help certify that I was, indeed, traumatized.

P9:

P10:

P11:

P12: Talk therapy has saved my life more than once, but it took time to find the right fit.

P13:

16. Please tell us about yourself now. (e.g. What are you like following therapy or your support service? Where are you in life now? What things do you enjoy doing? What other things would you like to tell us about you now?)

P1: I never had any therapy or support. I now have a disability pension but that's it.

P2: I have been divorced once (from a man) and have remarried. Even though my ex husband was never violent towards me, he would often lose his temper. After the divorce, I spent a lot of time reading about abuse e.g. Why does he do that by Lundy Bancroft and a bunch of books by Deborah Tannen about communication style differences e.g. (That's not what I meant!, You just don't understand) and developed a better understanding of male aggression and entitlement. I am much happier with my current husband and we resolve conflict well, which was never the case with my ex-husband. Moreover, we have never used harsh words with one another, and this was a common occurrence with my ex-husband. Also service is misspelled as serivce.

P3: I don't go back to my parents' place unless there are family occasions. I have unlearnt the mentality of 'being spanked and turning out fine', unlike other millennials or Gen Xers who continue to enable the cycle. I still believe some form of discipline is needed for this gen of children, but hitting may be a last resort. Hopefully I nvr need to do that. Will start with non-physical methods like grounding, timeouts or banning devices.

P4: I'm currently working on getting a career in software development. It wouldn't have been possible without finding a good therapist who pushed me into doing right by myself. I'm still living with my abusive parents, but I'm secretly working on leaving them, pinching pennies and networking with others until I can run away forever.

P5: I'm currently not it therapy. I'm better now in mental health. I like drawing digital, writing and reading fanfiction. In one year I graduate on business management, I'm working on an office. I'm able to speak for myself. I enjoy animation, its my special interest. I have other neurodivergent friends. Life it's not perfect, but it is better. Soon I'll be able to move out and finally be free.

P6:

P7: Sometimes I find that one can help themselves more than anyone can at the moment. I took my own health into my hands and I strive to find ways to keep me entertained and happy. Encouraging myself to talk about what bothers me, and speak honestly with how I'm feeling. I do think I would benefit a lot from therapy, but it's not something I can afford right now.

P8: Not in therapy. I've failed my accounting degree (which I never really liked) ; and am now changing into linguistics. I don't really enjoy doing much stuff, especially not outdoorsy activities.

P9:

P10: I am doing a masters degree in research psychology. I volunteer whenever I can, particularly with other autistic people. I've found that a particular skill I have is being able to understand autistic people and create strong trusting bonds. I don't create art as much as I want to but I try my best to have some creative time every now and then. I'm more choosey with my relationships but it's still very much a struggle for me. My relationship with my family has improved too, in part due to distance. I have a lot to thank my music therapist for in particular.

P11: I'm doing better. I still get overwhelmed from time to time. I started Lamictal which has been a tremendous help. I like reading non-fiction, researching various topics, cooking, making art or crafting and swimming. Late at night if I'm having a hard time going to sleep, I think about my mother. I wish things were different. But I also don't feel like I can go back. If I do, I think she'll chastise me for being absent from her life and idk if I could mentally handle that.

P12: I am a stay at home mom for now, but I graduated with a BA in psychology. I'm struggling with anxiety and depression and c-ptsd. I dealt with post partum psychosis after several months of insufficient, broken sleep and I am still recovering. I hope to get a degree in data analytics to perhaps pursue a masters degree that combines data science with psychological research, but I'm scared I have waited too long and my autism means I will never rise in the workplace (a fear). I love writing. It's my deepest joy. I have thousands of pages of things I've written throughout the years, never to be published - just for me. I do struggle to finish projects but it never stops me from writing as often as I can. When I can't write, I'm thinking about what I want to write. When I can't do either, I struggle and I'm hoping to find a way to cope better with that. I have a little girl, after all, and she needs my direct attention. I'm often afraid I'm not teaching her good enough skills, when I myself still struggle so much, but she has wonderful support services and her father is a very charismatic guy. I am hopeful we can balance one another out for her. She's growing and learning all the time. I can do a lot to protect her from the awfulness I was raised with and I am very optimistic she will not suffer as I did. I am very gentle with her sensory needs and help her test her boundaries / learn skills without getting overly upset. We communicate very well and I hope that the benefits of that outweigh my lack of social acumen and femininity.

P13: I did not access any services or treatments. However, I hold down a professional job. I am married, and my husband and I own a house. I like reading, crochet, weaving, sketching, and painting. I am still scared of and confused by people, but I have discovered more tools to help me with that.

16.a. Please tell us a bit about your current therapeutic situation. (e.g. Are you still in therapy or a support service? What are you in therapy or your support service for?)

P1:

P2:

P3: I occassionally confide in my job coach if there are family conflicts

P4: I am still in therapy, however, it is difficult to go to the sessions because of my transportation situation (I don't have a car).

P5: I'm not currently in teraphy.

P6: Trauma therapy

P7: I am not in therapy at the moment. I did receive two counseling sessions within the last 12 months in order to get my diagnosis on ASD but I did not get into any kind of physical abuse I experienced as a child.

P8: No longer in therapy.

P9:

P10: Nope!

P11: I currently go to talk therapy about once a month. I also do therapeutic ketamine in a clinical setting about once a month.

P12: I have recently returned to therapy for help with my c-ptsd, a truly non-functional level of ruminating, and ongoing issues with my family-of-origin.

P13: I see a psychologist and psychiatrist for PTSD, anxiety, and depression

16.b. What things do you still struggle with? Please explain a bit about these. (e.g. What are the behavioural characteristics you still notice? What are the cognitive characteristics you still notice? What are the socio-emotional characterisitics you still notice? What other things have you noticed you struggle with?)

P1: I'm still quite reclusive and don't socialise much.

P2: understanding implied meanings in the corporate world - office communication can often be indirect and this is an area of difficulty for me.

P3:

P4: I still struggle with suicidal thoughts, trichotillomania, inability to speak to people, and meltdowns. However, it is getting better thanks to therapy and my friends.

P5: Sensory stuff and connection with people. Sensory stuff: Struggle with over-stimulation of sounds and lights. Connection with people: I can't maintain friendships with neurotypicals and I can't form romantic bonds. I rely heavily on masking and social scripts but I always struggle with the rights words, tone and expressions.

P6: I don't know, that is the purpose of therapy

P7: I struggle with feeling a genuine connection with other people. Without this connection, it’s hard for me to feel like I have new friends. I struggle with speaking up for myself. I struggle with rejection. I struggle with my low self esteem. I struggle with maintaining focus on tasks. I struggle with staying motivated to be productive. I struggle with the paranoia that everyone is lying to me and no one actually enjoys my company or love me.

P8: I struggle at picking up "positive" or "good" social cues, and cope with food, which is unhealthy.

P9:

P10: I still struggle with relationships and dealing with other people, i still have sensory issues and fixations but I try to be kinder to myself and remind myself that I have just as much of a right to occupy space than anyone else.

P11: Self-esteem, motivation and being social.

P12: My black and white thinking is a real hurdle. I have to actively create nuance in my thinking, consciously go out of my way to think about alternate perspectives, because otherwise I will have real trouble forgiving people for something minor. I see hostility where there is none. I am anticipating bad intentions or mockery or waiting to put my foot in my mouth. Unfortunately for me, I also have a terribly sour resting expression. I believe my downturned mouth contributes tremendously to the perception that I am a negative person. I have tested this theory by first practicing smiles in the mirror (because my normal smile looks fake to people, according to about half of the ones I've met. it looks like a smirk, according to them.) so once I had a "genuine" smile, I practiced holding it in place as long as I could and doing it specifically when people were in the room. And they treated me SO. MUCH. BETTER. I still acted the same, but just smiling made them relax whereas my normal RBF makes them think I am going to go into attack mode, when I'm just thinking about the pattern of wood and staring blankly. My fear of new situations and of messing up in front of new people and further ruining my life has lead me to borderline agoraphobia, which I am working on challenging. I had a meltdown the last time I tried to go out for fun, which has made me hesitant to try again. My SIL is very hostile towards me and sets up conversational traps to make me look foolish or malicious. For example, I said "someone cool gave you those slippers, Chloe!" in an effort to compliment my SIL, who was in the room and watching her put the slippers on. Then my SIL goes "Who gave those to her?" And I blink and go "... you? Right?" And she just kind of stared at me, which made me uncomfortable, so I said, "I don't know? I thought it was you, I was trying to say you gave her something cool?" and she went "It's fine." (it was not fine) "This kind of thing doesn't matter to you, does it? It's just the 'kind of person' you are." (in a very cold voice) and I was like "....Not really??? I have a hard time remembering what gifts came from who?" and she goes "Yeah, because it's not important to you." and all I could say was "I guess not" and I still don't really understand what happened, only that my heart was hurting, so I left the room so I wouldn't cry in front of everyone. She didn't need to make me look like a jerk when I was trying to say she was cool.

P13: I struggle with loud noises, groups of people, and things like making conversation or talking on the phone. I can mask will enough, but it is exhausting to do, and I struggle more and more with that.

16.c. What seemed to improve for you after therapy or your support service for your abuse? (e.g. Did certain behavioural, socio-emotional, or cognitive characteristics improve? Did any other areas improve?)

P1:

P2:

P3:

P4: I am now able to focus on a brighter tomorrow because of therapy and my support group.

P5: Everything in general, I'm happier and I have more autonomy on my identity.

P6: N/A still receiving therapy

P7: I would say being more honest with myself about why something makes me feel the way it does. I would lie to myself because I was ashamed of why/how something bothered me. It's easier to talk to those in my support circle if I'm honest. I no longer seek the validation of my mother or any authority figure for that matter. I learned when I feel like I should remove myself from a situation.

P8: I did not go to therapy for my abuse.

P9:

P10:

P11: Not actively hating myself

P12: The ruminations feel more contained when I am in therapy and like they erupt less into my day. It's easier to look to the future and begin finding little steps I can take to move closer to my goals. All of that works together to make me calmer and better able to adapt to change. I'm not amazing at it, but it is definitely improving.

P13:

17. Please share anything else you feel is important.

P1:

P2:

P3:

P4:

P5:

P6:

P7:

P8:

P9:

P10:

P11:

P12: I find that I really struggle to process things alone. They get "stuck" inside of me and gum up all the gears. When I can talk to someone else, it gets so, so much easier to move on and not get caught up or stuck on something that could otherwise mentally trap me for the foreseeable future.

P13:

Parents and caregivers data

Pa1:

Age:

Gender:

Race:

Official diagnosis: Yes

Pa2:

Age:

Gender:

Race:

Official diagnosis: Yes

Pa3:
Age:

Gender:

Race:

Official diagnosis: Yes

6.a. If yes, please explain their official diagnosis. (If applicable, level of autism, any other diagnoses included with autism)

Pa1:

Pa2: Child was diagnosed at 3 years old, attends specialist setting and is non verbal.

Pa3: HFA, ADHD, GAD. Also Lupus and Epilepsy.

7. Please tell us a bit about your experiences with your child and when you first recognised signs of autism. (e.g. What types of behaviours were you seeing? What were their language skills like? What was their day to day life like?)

Pa1: My son was evaluated by early intervention in New York state at two years old, because he was not speaking or making progress towards speech.

Pa2: Child wasnt meeting developmental milestones and wasnt bothered by noises, sounds or reactive to primary care givers voice or if they left the room or not. They would stim when excited and use nonconventional communcation such as screaming for things they wanted. Would put and still will put non edidiable substances in their mouth but does not have a diagnosis of PICCA. Day to day life was very manic and we struggled to established routine and understand what they were trying to communicate.

Pa3: She was always very stubborn and willful, like ODD. She has a lot of sensory issues, especially for socks and for food textures. She tended to lie a lot with her friends so she could fit in with them. She didn't want to hurt anyone's feelings but also hid her vulnerabilities. She always seemed nervous. She was very messy (poor EF). Poor time management. Poor money management. Language skills were average for verbal but quite behind in written. Didn't want to go to school. Used to sneak out of class and hide. Was afraid of becoming a teenager and having to go to parties or socialise / date. Extreme separation anxiety from me (single mother), and also when leaving home in general. Even on holiday with me she wanted to go home. On one holiday she cried the whole time she missed her .... toilet. She didn't like the toilet there. She was 15. In Uni she quit three different programs, one of them on the first day that she arrived to her dorm before classes even started. We had to pay $10,000 for the dorm vacancy. Second program (chef school) she quit after about a year because the head chefs were too demanding and she cried all the time. Plus it was physically exhausting with Lupus. Third program (Journalism) she thought would be easier physically than chef school, because she'd be sitting down to write. It was overwhelming socially -- having to talk to strangers and go on camera. She was also afraid to go to news scenes by herself because of social anxiety. She wouldn't look people in the eye when interviewing. She needed long periods of down time after these social events (interviews) and had to miss classes the following day(s).

7.a. Please tell us about your journey seeking a diagnosis of autism with your child. (e.g. What made you seek a diagnosis? What was the process of getting a diagnosis? How old was your child? Were you referred to someone by your child's GP or teacher? Who gave the official diagnosis? And any other important things you experienced.)

Pa1: Early Intervention made the diagnosis

Pa2: seeking a diagnosis was through health visitor and pediatriction, upon 2 year assesment, we went private for a diagnosis with an Educational Psychologist. The child was 3 years old when offically was diagnosed. We did have a refferal from health visitor but we already had concerns about development due to nursery saying that they couldnt meet their needs and comparing them to their peers (friends children who were a simliar age)

Pa3: She and I were diagnosed around the same time. I was 49 and I'm Level 2 (Moderate) ASD. I suggested she should be screened too. She was HFA. Her diagnosis was by her psychologist who is also on the spectrum. She was around 21 or 22, I think. I can't remember. She had already dropped out of three uni programs and experienced a horrible relationship with her narcissistic boyfriend.

8. Please tell us about your experience with treatment recommendations for your child when they were diagnosed with autism. (e.g. Were any types of therapy recommended? How accessible were treatment recommendations? How accessible was treatment?)

Pa1: They recommended many hours of ABA plus speech and occupational therapy. We had trouble finding a speech therapist and I think initially chose floor time therapy over aba. But we were not impressed with the floor time and because we could not find a speech therapist we agreed to vote my son in a therapeutic preschool that was highly regarded in my area - a wealthy suburb north of New York City. In retrospect I wish I had not sent him there. I do not have any evidence that he was abused there but given what I know now I am really uncomfortable with some of the practices I saw there - especially the fact that the classrooms were in the basement of a corporate building and parents were not allowed downstairs. That's a real red flag to me now - the desire to keep everything secret and invisible. I have a friend who had her child there and she is convinced they abused her child there. The little girl always becomes hysterical when they drive by the building to this day.

Pa2: Speech and language was recomended due to speech delay. waiting list was atleast six months so went private. Stopped attending due to being given activites and communcation methods to use by therapist we could do at home and would re attend if speech improved.

Pa3: CBT therapy EMDR Vagus nerve retraining Her psychotherapist was $255/hour not covered. She couldn't keep going.

9. Please tell us a bit about how your child engaged with the services during their treatment. (e.g. What behaviours did you observe from them in sessions? Did they engage fully in sessions? What else did you notice?)

Pa1: Even though this was a therapeutic School, the teachers did not seem equipped to manage him. He was not prone to behaviors, but could not really attend at all and was basically just running in circles a lot of the time. I don't think he got much out of the experience other than that I think he more or less learned how to behave in a classroom - how to sit in a chair and be still for a bit.

Pa2: Fully enagaged in SALT and enjoyed the sessions

Pa3: She loved her psychotherapist but we couldn't afford it.

9.a. Tell us about what was found to be helpful about treatment for your child. (e.g. Were there certain aspects of treatment which seemed to help behavioural, cognitive, socio-emotional or any other characteristics? What types of things were done to help tailor the treatment to your child's needs? What other parts were found to be helpful?)

Pa1: In general I found most therapies to not be useful for my son. He has made some progress in physical therapy, but only very very little progress in occupational therapy and speech. I don't believe in ABA

Pa2: Due to having encounters with various professionals I found it helpful to observe how people interact with child due to having little expereince myself. Speech and language really helped us find conventional ways to communicate and with child attending a specialist setting the different ways they engage with child has helped improve behavouir and attention span , as well as developing a better understanding and higher tolarance of being around other children

Pa3: She liked learning from another autistic woman.

9.b. Tell us about what was found to be unhelpful for your child. (e.g. Were there certain things that did not help behavioural, cognitive, socio-emotional, or other any characteristics? Were there aspects of treatment which were not tailored to your child's needs? What other parts were found to be unhelpful?)

Pa1:

Pa2: No, although due to caring for a non verbal child I will say that communcation between different care providers and professionals is absolutley key to maintain consistency and security for the child.

Pa3: CBT did not work (known not to work for autistic people) Lots of antidepressants and ADHD meds - hit and miss As a younger child she had her own social worker at school, and she went to withdrawal classes for giftedness. She didn't like it because she didn't like open-ended assignments.

9.c. From your perspective, please tell us about what your child seemed to enjoy about therapy. (e.g. Did they enjoy certain techniques such as being able to use playing, art, music, or another component involved in their treatment? Did they enjoy learning coping skills or talking through certain things? What other aspects did they seemed to enjoy?)

Pa1: My son likes novel activities with new people, so sometimes he will enjoy speech therapy a bit with a new therapist. He sometimes also likes physical activity like a sensory gym

Pa2: They enjoyed requesting their movitators and sensory play

Pa3: Her main therapy was psychotherapy as a teen / young adult. She didn't have any children's ASD therapy**.**

9.d. From your perspective, please tell us about what your child did not seem to enjoy. (e.g. Did they not enjoy talking through things? Did they not enjoy certain exercises they might have had to do in a session? What other aspects did they not seem to enjoy?)

Pa1: Overall though I think he hates most therapies

Pa2: They didnt enjoy waiting or having to share or take turns with other children

Pa3: She has never liked homework. Has difficulty doing online classes (loses focus / no discipline.) Very poor time management and procrastination. Afraid of failure.

9.e. What changes did you see in your child after starting therapy? Please explain a bit about this. (e.g. What behavioural, socio-emotional, or cognitive changes did you see? What other changes did you notice?)

Pa1: Very little progress

Pa2: more conventional communication and better understanding

Pa3: After psychotherapy she was a lot more determined and had better self-esteem. It still took her five years to find a job.

10. Please tell us about your experience with your child completing therapy. (e.g. Did they ever complete the treatment? Did the treatment come to a natural stopping point, or did it end for another reason? In your opinion, how did they seem to feel about treatment ending?)

Pa1: I end up seizing most therapies because he makes no progress and comes to hate them

Pa2: See above about reason SALT ended. Still attends specialist provison

Pa3: No, she quit psychotherapy before all the sessions were done because of cost.

10.a. How did you percieve your child's treatment as impacting on you and your child's life? (e.g. What were the successes of treatment? What were the failures of treatment?)

Pa1: The impact of the failure of these therapies is that he really has not gained independence and will remain quite dependent

Pa2: Treatment was sucessful

Pa3: Successes: Better self esteem Slightly fewer meltdowns Failures: She started believing there was something wrong with her, and didn't try as hard.

11. If comfortable, please tell us a little about the physical abuse your child experienced. (e.g. To your knowledge, when did the abuse first begin? Where did the abuse occur? How long did the abuse continue for? Who perpetrated the abuse? What were other important factors related to their experience?)

Pa1: In the first grade, my son's teachers and aides sprayed him in the face with some unknown substance as a means of punishment. They also threw out his food and used hunger to control him, or to attempt to control him. This was despite the fact that he had pretty much zero behaviors at the time. They objected to his singing and fairly innocuous vocal stims

Pa2: Im not sure, it was all dealt with on a need to know basis

Pa3: Her father and I divorced when she was six months old. She was forced by the court to be weaned so she could spend time with him. He admits he only wanted to see her so he could avoid paying child support. He spanked her so often she would lock herself in my bathroom on his visitation days and I had to drag her out screaming, so I wouldn't be in violation of a court order or go to jail. He refused to follow her doctors' medical directives and actually caused her to go unconscious and require three days in hospital. She was close to dying if I hadn't intervened. He denies having failed to provide her medicine or stay within 10 miles of the hospital as told in written doctor's orders. He told her she was fat and called her "TANK". She developed an eating disorder which she has battled for 20 years. In the beginning if he called her fat and she ate less, he also called her Anorexic. He was accused of sexually assaulting her at age 8 and she had to endure paediatric vaginal exams and police visits to the home. I needed to pay $50,000 in legal fees for this. He left lice in her hair for several days telling her (and me) it was sand, and then denied it was lice until I took the lice bodies to our pharmacist to be identified. He refused to provide clothing, pyjamas, shampoo, etc. on her visits. She was required to take a suitcase to school and leave it in the school office on his visit days because he refused to pick her up from home after age 5. Eventually he wouldn't return her to home and dropped her off in a park so she would walk home alone with her suitcase to my house. He forced her to take a series of buses and trains to get to high school, after moving 2 hours away from her school but refusing to drive her. She had to leave his house at 5 a.m. to get to school on time and became sleep-deprived because he also forced her to have a part-time job at night after school, taking buses home in the dark (3 hours on bus for a 2 hour drive), each way. He also expected her to babysit for his two younger children from a subsequent marriage, for hours every weekend. He failed to follow any court-ordered custody agreements or Orders, including the one that said he was a threat to her physical safety and shouldn't see her unsupervised, or the one saying he needed ongoing psychiatric care and ongoing parenting classes. When she was first diagnosed with Lupus and HFA, she sued her in court calling her a liar and trying to sue her doctors to say they were also lying. He refused to believe she had Lupus or HFA (or Epilepsy, or anything.) He also accused her of lying to the government to get her disability payments. He demanded back payment of $10,000 child support and refused to pay for any of her tuition which was already court-ordered. He then asked the judge to allow him to legally disown her. Oh, he also stalked her at work after disowning her.

12. Looking back, how did the physical abuse effect your child's day to day life? Please explain what changes you saw in your child. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Were there changes in their independent or daily living skills? What were they? What other changes did you notice?)

Pa1: The thing is that there was really no obvious effects of this abuse. He did not resist going to school, he did not cry, he did not get angry. I had no idea that this was happening. The only reason I found out is that I heard an aid threatened to lock another child in the bathroom. I tried to get my child out of the school but we had very little money and I couldn't find another place so I had to send him in or risk being charged with educational neglect. For that reason I sent him in with a small recording device on him about 6 weeks into the school year - we had held him out for the first two weeks. When I listen to the tape I was astounded by the obscene cruelty that the teacher and AIDS were using on the children - mostly my son but to a lesser degree the others as well. I held him out after that. When we finally found him another school and it was our first day to start, I was dressing him and he was shaking so hard - from head to foot - that I couldn't even get his socks on. That was my first evidence of what they had done to him and what it had done to him emotionally

Pa2: They were nervous around new adults and found it hard to eat sit down meals due to apprently being force fed

Pa3: She has PTSD, abandonment anxiety, separation anxiety from me, an inability to go to school or work. She's afraid to leave home in case he is following her. Her Global Functioning dropped significantly. She had been managing a few part-time jobs and was hoping to continue Journalism school with accommodations, but lost all her confidence and her money (being sued).

13. Please share anything else that you feel is important.

Pa1: The abuse my son suffered in the first grade was not restricted to the purely physical. They also screamed at him maniacally and forced him to face the wall for most of the day. Their cruelty caused him to cry and then they would punish him more for crying. I use the audio recording I had of this to pressure the school to give us an out of district placement. They sent us to the most well regarded program in our area. He had a few good years there but then things seem to decline. One day they sent him home, having accidentally recorded themselves on his iPad. They recorded a scene where in a child picked up my son's iPad and all the teachers start freaking out and screaming at him and apparently trying to grab it from him. They escalated the situation instead of deescalating it. Then, just before the end of the recording you can hear one staff member clearly say "hit him if he does that.". For this reason we pulled our son from that district and brought him into our new home district - our third district. We again had a few good years there. Then we learned that one of his classmates had been restrained 33 times without the school notifying his parents. 33 times!. He was non-verbal as is my son so none of us knew what was going on in the classroom. My child witnessed these restraints. For all I know he thought they were trying to kill this boy - a child he had known for years. After that my son experienced extreme PTSD. He was diagnosed by a neurologist. This coincided with covid quarantine and puberty and really sent him into a terrible tailspin where he stop sleeping, stopped eating most foods, stopped smiling, became constantly frantic and frequently violent. It has been a hell that has nearly destroyed my family. We are slowly healing but I don't know if any of us will ever be the same, especially my son

Pa2: They enjoy washing machines and cars, it seems to settle child if you tell them what washing machine you have (make, colour) and the same with cars (make, model, colour)

Pa3: It is legal abuse and this man should be in jail.

14. Please explain a bit about your child's experience after the physcial abuse occurred. (e.g. What behavioural, socio-emotional, or cognitive changes did you notice? Did these changes get worse? What other changes did you notice in your child?)

Pa1: I addressed this in an earlier section

Pa2: Lots of screaming and stimming but unable to say if this is new behavouir or consistent throughout childhood. Didnt like men but seems to be better with this now. When over stimulated would charge into adults and children, unable to say if this is a result of abuse or consistent through childhood

Pa3: MDD 99th percentile GAD 99th percentile PTSD and CPTSD ADHD got worse Agoraphobia More meltdowns Started to fear men. All men.

15. Please tell us about your child's experience with treatment after the abuse occurred. (e.g. Were there any treatment recommendations? What was recommended? Who made the recommendations? Was any type of treatment carried out?)

Pa1: Some of his doctors have recommended trauma therapy, but because he is nonverbal this is nearly impossible to find

Pa2: No abuse treatment provided that I am aware of

Pa3: Her psychotherapist encouraged her to sue him for emotional damages but of course we couldn't afford that, and had no stamina to do it. The courts did not provide any support or accommodations for disabled people.

15.a. Please tell us about what parts of treatment were found to be helpful for your child.

Pa1: We saw a neurologist who prescribed first, clonidine, then Zoloft then Lexapro. Each of these medications made him more agitated. We found a Doctor who gave him a medical marijuana card. This is the only thing that helps him without any side effects. It's not a cure but it helps him to be less violent and less miserable

Pa2:

Pa3: Talk therapy

15.b. Please tell us about what was found to be unhelpful.

Pa1:

Pa2:

Pa3: CBT

15.c. From your perspective, please tell us about what parts of treatment were enjoyable for your child.

Pa1:

Pa2:

Pa3: EMDR

15.d. From your perspective, please tell us about what parts your child did not enjoy about their treatment.

Pa1:

Pa2:

Pa3: Paying for it

15.e. Please explain a bit about any changes you noticed in your child during treatment. (e.g. What behavioural changes did you notice? What cognitive changes did you notice? What socio-emotional changes did you notice? What other changes did you notice?)

Pa1:

Pa2:

Pa3: She became more determined to stand up for herself which is good, but it also brought out her ODD / Pathological Demand Avoidance characteristics. She essentially went into a four year shutdown.

16. Please share anything else you feel is important.

Pa1:

Pa2:

Pa3:

17. Please tell us about your child now. (e.g. What are they like following treatment? Where are they in their life now? What things do they enjoy doing? What other things would you like to tell us about them now?)

Pa1: My son has been moved from the Middle School where he witnessed the terrifying and abusive use of restraints, to the high school with a new teacher. The new teacher is truly excellent and he loves going to school. She's getting him involved in all kinds of new things and he is increasingly happy. He is having no more behaviors at school. At home things have improved but only inconsistently. Is good to see him smile again, thank God. But he can still become violent sometimes and overall is easily agitated and more rigid than he was before

Pa2: More conventional communcation, starting to use single words in context, not as attatched to objects or people, understanding improving rapidly, better at attending sit down meals. Still lots of screaming and stimming but more managable due to new communcation methods and recommendations for sensory activities

Pa3: After quitting therapy she sat in her room doing nothing for a couple of years, also because of Covid. She is highly immunocompromised and was afraid to leave the house. She took a couple of online classes at $1000 each from her University, but failed them both because she didn't know how to write the intro about her life, so she stopped participating.

17.a. Please tell us a bit about their current therapeutic situation. (e.g. Are they still in treatment? What are they in treatment for?)

Pa1:

Pa2: No treatment/therapy at the moment

Pa3: She was since diagnosed ADHD and takes ADHD meds. That's her only treatment. She found a good job which is work from home. She hasn't spoken to her dad or any of his extended family since he sued her. She removed voicemail from her phone because he wouldn't stop calling her.

17.b. From your perspective, what do they still struggle with? Please explain a bit about these. (e.g. What are the behavioural characteristics you still notice? What are the cognitive characertistics you still notice? What are the socio-emotional characterisitics you still notice? What other things have you noticed they struggle with?)

Pa1:

Pa2: See above

Pa3: Meltdowns Anxiety Executive Function Depression PTSD Social phobia (especially men)

17.c. From your perspective, what areas did your child most improve in? (e.g. Did they improve on certain behavioural, socio-emotional, or cognitive characteristics? Did they improve in any other areas?)

Pa1:
Pa2: Behavouiral , socio-emotional and cognivitve development
Pa3: Self-confidence

18. Please share anything else you feel is important.

Pa1:
Pa2:
Pa3:

Appendix GG

Advert example for quantitative survey

UNIVERSITY OF
GLOUCESTERSHIRE

Researcher: Kirsten Pearson
Supervised by: Dr. Danielle Stephens-Lewis and Dr. Kim Schenke

Participants needed!

Are you Autistic? Or is a child in your care Autistic?
Are you at least 18 years old?

If YES…
Take part in an online study!

This study explores the prevalence of Adverse Childhood Experiences, and other related characteristics in Autistic individuals.

Click the links below to participate!

Parents/guardians/caregivers: https://glos.onlinesurveys.ac.uk/survey-for-parents-and-caregivers-2

Autistic adults: https://glos.onlinesurveys.ac.uk/survey-for-autistic-adults-2

Appendix HH

Advert example for qualitative survey

UNIVERSITY OF GLOUCESTERSHIRE

Participants needed!

Looking for autistic adults who experienced childhood physical abuse for a qualitative survey

Take part in an online study and have your voice heard!

This study explores the experiences and therapeutic needs of autistic children who have experienced physical abuse.

Click the link below to participate!

https://glos.onlinesurveys.ac.uk/qualitative-survey-for-autistic-adults-who-have-experience-6

Please be aware that this survey covers sensitive issues.

Please see the information sheet at the link above for more information or contact the researcher at [redacted]

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