#### **REVIEW PAPER**



# Prevalence and Risk Factors Associated with Interpersonal Violence Reported by Autistic Adults: A Systematic Review

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#### Abstract

This article provides a systematic review of the prevalence and risk factors associated with interpersonal violence reported by autistic adults. A systematic search of electronic data bases for peer-reviewed journal articles in English was conducted. The search identified 16 studies that addressed rates and/or risk factors for interpersonal violence. There was wide variation in prevalence rates which was attributed to differences in types of violence being investigated, definitions and measures used, age range and gender of participants and time-frame covered. Overall results indicated that rates may be higher than in the general population. Twelve studies reported on possible risk factors with both individual and broader social factors identified. Further research utilising longitudinal design and validated measures is needed.

Keywords Autism · Violence · Interpersonal violence · Trauma · Abuse

The World Health Organisation defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, against another person or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (World Health Organisation, 2002). Such violence can come in many forms, including physical, sexual, or psychological. It can also be self-directed, collective (social, political or economic) or interpersonal. The current systematic review focuses

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specifically on interpersonal violence – violence among individuals, including among *related* individuals in the context of a family or extended family, and among *unrelated* individuals who may be friends, acquaintances, or strangers.

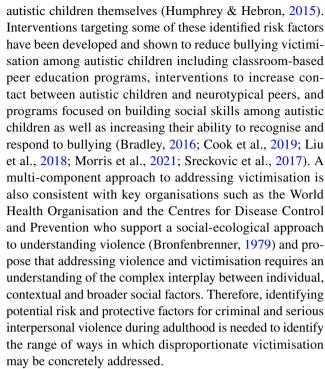
The World Health Organisation's Global Health Estimates indicate that interpersonal violence results in the death of approximately 500,000 people each year and is one of the leading causes of disability in high-income countries (World Health Organisation, 2020). The personal impact of interpersonal violence is often pervasive and far-reaching, and can include mood disturbances, anxiety, post-traumatic symptoms such as hypervigilance, flashbacks and heightened reactivity, substance use disorders and chronic health issues (Jina & Thomas, 2013; Kessler et al., 2010; Messman-Moore et al., 2000; Platt et al., 2017; Trevillion et al., 2012; Turchik, 2012) – and, as such, represents a significant public health problem. In addition, prior exposure to violence has consistently been shown to predict further victimisation (Fagan & Mazerolle, 2011; Finkelhor et al., 2007), resulting in a cycle of trauma and disadvantage. Putting an end to this cycle requires the development of targeted strategies and policies that are underpinned by a comprehensive understanding of the extent, nature and risk factors for interpersonal violence, particularly for vulnerable populations.

Although interpersonal violence occurs across all social, cultural and economic strata, there are some groups that are disproportionately affected by interpersonal violence,



including women (Biswas & Vaughn, 2011; Krebs et al., 2009), those of minority sexual or gender orientation (Blondeel et al., 2018; Rothman et al., 2011; Walters et al., 2013), people with mental illness (Bengtsson-Tops & Ehliasson, 2012; Van Deinse et al., 2019), and disabled people (Fisher et al., 2016; Gil-Llario et al., 2019; Krnjacki et al., 2016; Tomsa et al., 2021). Autistic people are one such group who may be at increased risk. Autism is a neurodevelopmental condition that affects the way that a person interacts with, and experiences, the world around them (APA, 2013). There is considerable evidence that autistic children are at higher risk of experiencing bullying, and some indication of increased physical, emotional and sexual abuse, compared to non-disabled peers (Carter, 2009; Mandell et al., 2005; Sullivan & Knutson, 2000). In a systematic review of the prevalence of victimisation among autistic individuals based on papers published until September 2019, Trundle et al. (2022) found a pooled prevalence rate of 44%. Yet, most of the eligible studies focused on bullying victimisation during childhood while the extent and nature of interpersonal violence during adulthood was unclear, leading the authors to recommend a future focus on serious and criminal interpersonal violence during the adult years. Some researchers have begun to turn their attention to this area (Fardella et al., 2018; Gibbs et al., 2021; Pearson et al., 2022, 2023; Rothman et al., 2021), while others have included an investigation of violence experiences in the context of overall trauma (Griffiths et al., 2019) or involvement with the criminal justice system (Gibbs & Haas, 2020; Hwang et al., 2020). This existing research, however, has yet to be synthesised so the extent and nature of violent victimisation during adulthood for autistic people remains unclear.

Given the negative impacts associated with violent victimisation, it is important to go beyond examining overall prevalence rates and identify underlying factors that may shape the experience. This is particularly important as understanding the factors that collectively and individually contribute to violence may highlight opportunities for prevention work, both in the short and long term. Research into possible risk factors for victimisation among autistic people has largely been limited to peer victimisation during childhood. Both situational (educational setting, parental mental health and engagement, socio-economic status and social support) and individual (degree of social communication difficulties, social vulnerability, behaviour issues) factors appear to be associated with peer victimisation among autistic students (Park et al., 2020; Sreckovic et al., 2014). Drawing on this research into bullying, researchers have recommended multi-component interventions that address key areas such as the negative attitudes and behaviours of their neurotypical peers, the development of a zero-tolerance school culture, the often-limited knowledge and skills of teachers and, and the protective skills and understanding of



Despite recent efforts by researchers to gain a better understanding of the scale of violence experienced by autistic adults, no comprehensive analysis of this research has been conducted. It is crucial to understand the extent of violence against specific societal groups as a fundamental step in the public health approach to preventing violence (Krug et al., 2002). This initial step is necessary to identify potential risk or protective factors as well as to develop and evaluate any future polices or programs aimed at preventing violence. In the current systematic review, we therefore sought to identify quantitative and qualitative data related to the prevalence of interpersonal violence reported by autistic adults and any factors that may be associated with heightened exposure to violence.

#### **Methods**

## **Search Strategy**

The protocol for this systematic review was registered on PROSPERO (CRD42022325094). The most current version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines at the time of registration was followed throughout the review process (Page et al., 2021). In consultation with a research librarian, the following databases were searched from inception to May 2022 for publications on autism and violence: PsycINFO (Psychology), Scopus (Multidisciplinary Sciences including Social Sciences), MEDLINE (Multidisciplinary Medical Sciences), EMBASE (Biomedical and Pharmacological),



ERIC (Education), CINAHL (via EBSCOhost) and ProQuest Dissertations and Theses. The search strategy utilised a combination of searches through titles, abstracts, keywords and full texts related to "autism" and "violence" or "abuse" or "trauma" or "victim". An updated search of all databases was conducted in August 2023. Searches were limited to research published in English (see Supplementary Materials for sample search strategy). The reference lists of included studies or relevant reviews were also hand-searched to identify further eligible articles. References were managed using Covidence (www.covidence.org). Duplicates were removed using Covidence's duplication identification strategy, and then checked manually by the first author. Abstract/title screening and full text reviews were independently conducted by two members of the research team. Inter-rater reliability was moderate to strong (abstract review,  $\kappa = 0.66$ ; full text review,  $\kappa = 0.85$ ). Where any discrepancies were found (for example, regarding whether there was a sufficient focus on interpersonal violence), the decision on whether to include was resolved through discussion.

#### **Selection Criteria**

Studies were selected according to the following criteria:

- 1. Participants: Autistic adults (including autism spectrum disorder, autistic disorder, Asperger's disorder, pervasive developmental disorder-not otherwise specified) both with and without co-occurring intellectual disability. Participants could be professionally or self-diagnosed. Studies focused on adolescents or children (under 18 years of age) were excluded. If studies include both adolescents and adults, only those studies where adult responses are reported separately OR where the mean age of respondents is greater than, or equal to 17, were included. Studies that focused only on autistic traits in the general population were also excluded.
- Outcome: Studies reporting prevalence, or possible risk factors for violent victimisation during adulthood were included. This included physical violence, sexual violence, intimate partner violence, domestic violence, or any type of violence towards autistic adults.
- 3. *Study Design:* Quantitative and qualitative studies published in peer reviewed journals were included. Books, case studies, dissertations, reviews and commentaries were excluded.

# **Data Extraction**

We extracted the following data from included articles: author/s, year of publication, study setting, study design, sample size, number of participants, socio-demographics of participants (gender, ethnicity, age), assessment method of

violent victimisation, time-frame examined; rates of different forms of violence, any risk factors of violence identified. Data extraction was independently conducted by two members of the research team and any discrepancies were resolved by discussion.

#### **Quality Assessment**

Study quality was assessed using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). The MMAT is designed for use in mixed studies reviews and is suitable for use with qualitative research, randomized controlled trials, non-randomized studies, quantitative descriptive studies and mixed methods studies. The quality criteria applied to a study includes five items, which vary according to study design. Outcomes for each criterion are defined as "yes" meets criteria, "no" does not meet criteria, or "can't tell" where sufficient relevant information was not reported. Quality assessment for each study was completed independently by two of the authors and any discrepancies in ratings were discussed and resolved by consensus.

## **Analysis**

Due to variability in study designs (qualitative, quantitative, and mixed methods), we completed a narrative synthesis of the results. This is a systematic approach for undertaking a review where statistical methods or pooling of data is neither possible nor appropriate (Lisy & Porritt, 2016). Narrative synthesis enables investigation of similarities and differences, highlights the quality and extent of published evidence and results in a summary of knowledge that can be used to inform policy or practice (Lisy & Porritt, 2016). Using the extracted data, we applied a deductive approach to prepare summaries of studies according to study characteristics, rates of reported violence and possible risk factors. We undertook a synthesis of the data, looking for similarities and differences across studies in order to draw conclusions regarding our research questions where possible. This synthesis was conducted by the first author, with input from other authors prior to agreement on the final categories and summaries which were then reported in a narrative format.

#### **Results**

As shown in Fig. 1, after removal of duplicates, 1,674 unique articles were screened for eligibility, of which 44 full text articles were reviewed. Twenty-eight papers were excluded for the following reasons: violence not confined to the adult period (n=12), no explicit measures of interpersonal violence reported (n=8), mean age of participants < 17 (n=2),



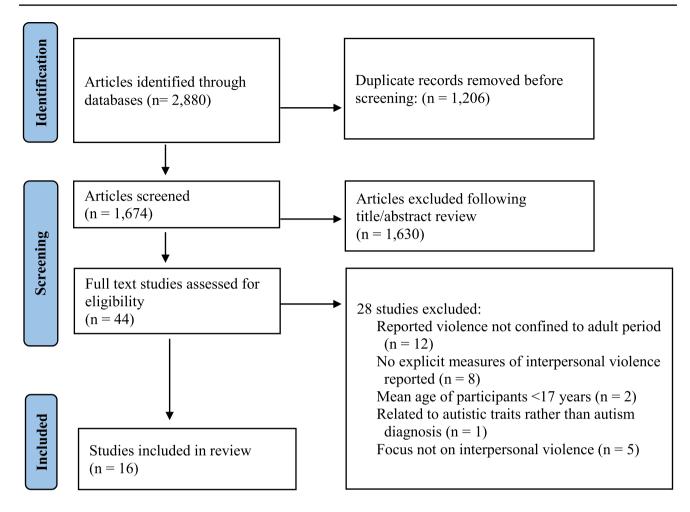


Fig. 1 Prisma Flow Diagram Showing Article Selection Process

study related to autistic traits rather than autism (n=1) or the focus of the paper was not on interpersonal violence (n=5). Thus, 16 studies were ultimately identified as eligible for inclusion in the systematic review.

#### **Overview of Included Studies**

Table 1 summarises the sample characteristics, aims and study type for each of the 16 included studies. Studies were conducted in the United States (n=4), Australia (n=5), Canada (n=2), the United Kingdom (n=4) and Sweden (n=1) and published between 2016 and 2023. The majority (n=10) were cross-sectional, four used a qualitative design, one was a mixed-methods approach and one was a text mining study. Eight studies included a comparison group of non-autistic adults with two of these studies also including a comparison group of adults with disabilities other than autism. Of the 16 studies, nine were conducted using community samples, three consisted of undergraduate students only, one used data from police records and one study used information from Swedish national registers. Two of the community-based samples

included additional inclusion criteria, i.e., autistic women who had been diagnosed after age 14 and autistic adults who had interacted with police in the previous five years.

Of the 16 eligible studies, eight explicitly sought to investigate the prevalence of interpersonal violence experienced by autistic people during adulthood. Two qualitative studies explored possible risk and protective factors of interpersonal violence and one qualitative study explored the impact of interpersonal violence from the perspective of autistic people. The aims of the remaining five studies varied, ranging from measuring a range of negative life experiences; characterising sexuality and sexual experiences of young adults; comparing domestic violence incidents that involved autistic adults with those that did not; investigating interactions between autistic people and police; to investigating the experiences of late-diagnosed women.

## **Quality Assessment**

Results of the quality assessment using the MMAT (Hong et al., 2018) are provided in Supplementary Materials. The overall



Table 1 Summary of Study Characteristics	racteristics				
Reference and geographic location	No of participants by diagnosis	Mean age (range)	Gender	Type of study	Aim of study
Bargiela et al., 2016; UK	Autistic $(n = 14)$	M = 26.7, SD = 2.3 (22 - 30)	Female (14, 100%)	Qualitative	To investigate the female autism phenotype and how this impacts timing of diagnosis
Brown et al., 2017; US	Autistic ( $n = 158$ ), disability other than autism ( $n = 7,018$ ), non-autistic ( $n = 27,703$ )	Not known – all undergraduates	Autistic: 93 men (59%), 44 women (27.8%), 21 other gender (13.3%), Other participants: not reported	Quantitative	To assess the prevalence of unwanted sexual contact for college students who self-identify as autistic with college students with other disabilities and students without disabilities
Fardella et al., 2018; Canada	Autistic $(n=22)$	(18 – 53)	12 men (54.54%), 10 women (45.45%)	Qualitative	To identify risk and protective factors for interpersonal violence
Ghirardi et al., 2023; Sweden	Autistic ( $n = 21,362$ ), ADHD ( $n = 45,991$ ), intellectual disability ( $n = 14,194$ )	Not known – individuals born between 1985—1997	Autistic: 14,058 men (65.8%),7304 women (34.2%); ADHD: 28,899 men (62.8%), 17,092 women (37.2%); ID: 8,400 men (59.2%), 5794 women (40.8%)	Quantitative	To investigate the association between several neurodevelopmental disorders and risk of severe violent victimisation in adolescence and adulthood. To examine whether shared familial factors or externalising problems explain the association between NDs and violent victimisation
Gibbs et al., 2021; Australia	Autistic $(n = 245)$ , non-autistic $(n = 49)$	Autistic, $M = 43.85$ , $SD = 12.05$ (25 – 83), non-autistic, $M = 43.9$ , $SD = 12.42$ (25 – 71)	Autistic: 80 men (32.7%), 144 women (58.8%), 21 Other (8.6%); non-autistic: 9 men (18.4%), 40 women (81.6%)	Quantitative	To investigate the prevalence and gender patterns of sexual and physical violence and examine any relationship between autistic traits/emotion regulation and prior violence victimisation
Gibbs et al., 2022; Australia	Autistic $(n = 118)$ , non-autistic $(n = 110)$	Autistic, $M = 35.79$ , $SD = 13.33$ (19—70), non = autistic, $M = 37.13$ , $SD = 12.19$ (19 – 66)	Autistic: 25 men (21.2%), 77 women (65.3%), 15 Other (12.7%); non-autistic: 25 men (22.7%), 84 women (76.4%, 1 Other (0.9%)	Quantitative	To investigate the prevalence and gender patterns of a wide range of violence types and repeat and multiple violence among autistic adults without intellectual disability compared to non-autistic adults. Also explored contextual factors
Gibbs & Haas, 2020; Australia	Autistic, $n = 50$	(18 – 64)	17 men (34%), 28 women (56%), Mixed Methods 4 Other (8%), 1 prefer not to say (2%)	Mixed Methods	To examine the nature of interactions between autistic people and police in Australia
Gibbs & Pellicano, 2023, Australia	Autistic, $n = 22$	M = 36.23, SD = 10.67 (1957)	4 men (18%), 13 women (59%), 5 non-binary 23%),	Qualitative	To understand the extent, nature and risk factors of interpersonal violence



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Reference and geographic location	No of participants by diagnosis	Mean age (range)	Gender	Type of study	Aim of study
Griffiths et al., 2019; UK	Autistic ( $n = 426$ ), non-autistic ( $n = 268$ )	Autistic $M = 44$ , $SD = 14.37$ , nonautistic $M = 51$ , $SD = 15.33$	Autistic: 174 men (40%), 202 women (47%), 50 Other (12%); non-autistic: 71 men (26%), 194 women (72%), 3 Other (1%)	Quantitative	To develop a self-report measure of negative life experiences using a participatory framework
Hartmann et al., 2019; US	Autistic ( $n = 100$ ), parent-carers ( $n = 100$ )	M = 22 (18 - 30)	52 men (52%), 42 women (47%), Quantitative 1 Other (1%)	Quantitative	To characterise sexuality, sexual experiences, and sexual knowledge in young adults with autism and their parents and to examine and compare communication about sexuality between young adults and their parents
Hwang et al., 2020; Australia	1,601 domestic violence events involving autistic people	Over 18	948 incidents involving men, 276 Text mining incidents involving women*	Text mining	To observe the similarities or differences between domestic violence events involving people with and without autism with regard to demographics of offender and victim, their relationship, as well as the nature of the event (i.e., injuries, abuse types)
Libster et al., 2023; US	Autistic ( $n = 270$ ), non-autistic ( $n = 270$ )	Not known (colleges students)	Autistic and non-autistic: 136 men (50%), 134 women (34%)	Quantitative	To examine whether autistic college students are more likely than non-autistic students to experience unwanted sexual contact and sexual assault
Pearson et al., 2023 UK	Autistic, $n = 102$	M=31.2, (19-73)	21 men (20.58%), 64 women (62.74%), 14 non-binary (13.72%)	Qualitative	To explore impact and outcomes, barriers to support and facilitators of recovery from interpersonal victimisation
Rothman et al., 2021; US	Autistic $(n = 1,141)$ , non-autistic $(n = 218,430)$	18 – 31 (College students)	Autistic: 550 men (59.1%), 367 women (23.4%), 222 other (17.4%); non-autistic: 67,780 men (41.8%), 145,617 women (55.5%), 4,762, other (2.5%)	Quantitative	To calculate the prevalence of physical, sexual and emotional aggression victimisation among autistic and non-autistic college students and its effect on academic achievement; and relationship between depression, sense of belonging on victimisation among autistic vs. non-autistic students



Table 1 (continued)

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Reference and geographic loca- No of participants by diagnosis tion		Mean age (range)	Gender	Type of study Aim of study	Aim of study
Triantafyllopoulou et al., 2022; Autistic, $n = 78$ UK	Autistic, $n = 78$	M = 29.30, SD = 9.7 (18-59)	29 men (37.2%), 43 women (55.1%), 6 Other (7.7%)	Quantitative	To investigate social media use and examine occurrence of cyber-bullying victimisation and cyber-aggression
Weiss & Fardella, 2018; Canada Autistic $(n=45)$ , non-autistic $(n=42)$	Autistic ( $n = 45$ ), non-autistic ( $n = 42$ )	Autistic: $M = 30.00$ , $SD = 1.48$ (18 - 53), non-autistic, $M = 32.12$ , $SD = 8.62$ (19 - 54)	Autistic: 19 men (42.2%), 26 women (57.8%); non-autistic: 21 men (50%), 21 women (50%)	Quantitative	To identify and compare patterns of violence victimisation and perpetration in autistic and non-autistic adults and whether sociocommunicative competence and emotion regulation mediate the any higher rates of violence victimisation and perpetration

Fotals do not necessarily add up due to missing data from police reports

quality of included studies was sound. We identified three methodological issues in the quantitative studies in particular. First, seven studies identified autistic adults as the target population, but the use of online questionnaires would have precluded participation of those with intellectual difficulties. As approximately 30% of autistic people also have an intellectual disability (Baio et al., 2018; Rydzewska et al., 2019), the samples across studies included in this review were not representative of the broader autistic population. Second, it was not possible to ascertain the degree of missing data in five studies, which may have introduced bias into study results. Finally, although one study used an outcome measure that was developed in consultation with autistic people, none of the other self-report outcome measures have been validated for use with this population.

# **Autistic Participant Characteristics**

Table 2 provides an overview of the autistic participant characteristics. In total, 15 of the 16 studies provided at least some demographic details related to a total of 24,153 autistic participants. There was a higher representation of men compared to women (62.22% and 34.27%, respectively) with only 1.3% of participants identifying as gender non-conforming. Among the ten studies that included age details, participants ranged in age from 18 - 83 with a mean of 33.09 years. The samples were almost exclusively individuals who had completed or were currently enrolled in tertiary education (92.07%) with less than 1% of participants reported to have a co-occurring intellectual disability. Further characterisation of the participant samples was poor. All but four of the studies required participants to report a professional diagnosis of autism. Three studies that included self-identified autistic adults (Gibbs & Pellicano, 2023; Gibbs et al., 2021, 2022) only included those participants who scored above the clinical cut-off on an autism screening measure. Half of the studies reported participants' racial/ethnic background and just over a third reported employment status. In the studies that included these details, the majority of participants were white (71.74%) and just over half (52.88%) were currently employed. Only four studies reported on co-occurring mental health conditions, despite the fact that such conditions, especially depression and anxiety, are common among autistic adults (Gotham et al., 2015; Hollocks et al., 2019).

<sup>&</sup>lt;sup>1</sup> Many autistic people – particularly adults – face barriers to obtaining a formal diagnosis (Huang et al., 2020; Lewis, 2017). Excluding people who self-identify as autistic may inadvertently and disproportionately affect socioeconomically disadvantaged people, women, gender minorities, and racial minorities.



 Table 2
 Aggregated Autistic Participant Characteristics

	No of autistic participants	% Gender	Mean age and range	%Ethnicity	% Completed or enrolled in tertiary education	% Employed	% co- occurring mental health problems	% co-occurring intellectual disability
N studies used in calculations (%)	n=15 (93.75%)	n=15 (93.75%)	n=10 (62.5%)	n=8 (50%)	n=10 (62.5%)	n = 6 (37.5%)	n=4 (25%)	n=12 (75%)
	24,153	62.22% men, 34.27% women, 1.3% Other gender	33.09 18 – 83	71.74% White, 6.4% Mixed, 5.6% Asian, 2.9% Hispanic, 2.3% Black, 6.9% Other	92.07%	52.88%	59.85%	0.76%

## **Measures Used to Assess Prevalence of Violence**

Table 3 summarises the assessment methods and results of each study. One study gathered data from police records (Hwang et al., 2020) and one from national patient and death registers (Ghirardi et al., 2023) with the remaining (n = 13) relying on self-report (one study also gathered parent-report; Hartmann et al., 2019). The studies that collected self-reported quantitative data (n = 10) used different measures. One study used the Juvenile Victimisation Questionnaire (Hamby et al., 2004) with the wording modified to assess victimisation during adulthood (Weiss & Fardella, 2018). One study used the Recent Traumatic Events Scale (Pennebaker and Susman, 1988), which included two questions pertaining to sexual violence and physical violence in the past two years (Gibbs et al., 2021) and one study (Hartmann et al., 2019) used the Sexual Experiences Survey's items about sexual victimisation, coercion, contact, and attempted or completed rape (Koss & Oros, 1982). Triantafyllopoulou et al., (2021) measured cyber-bullying victimisation in the past 3 months with the European Cyber-Bullying Intervention project questionnaire (Brighi et al., 2012). One study developed a new measure, the Vulnerability Experiences Quotient, in consultation with autistic adults and other stakeholders, which included questions related to physical assault, peer aggression and forced sexual activity during adulthood (Griffiths et al., 2019). The five remaining self-report quantitative studies used novel survey questions related to interactions with police as victims of violence (physical assault, harassment, sexual assault) in the previous three years (Gibbs & Haas, 2020); experiences of sexual harassment, stalking and harassment, sexual and physical violence since the age of 15 (Gibbs et al., 2022); experiences of physical assault, sexual assault or emotional aggression in the previous 12 months (Rothman et al.,

2021) and unwanted sexual contact and sexual assault in a university campus setting over the previous five years (Brown et al., 2017) or since starting college (Libster et al., 2023).

# **Rates of Interpersonal Violence**

For the purposes of aggregating results across studies, we defined sexual violence as including any unwanted sexual contact, being forced into sexual activity, actual or threatened sexual assault/rape; physical violence as any physical assault, being hurt or threatened to hurt; and emotional abuse as any bullying (including cyberbullying), peer victimisation or humiliation. For the Hartmann et al. (2019) study, which also collected parent-report data, we included the self-report data only. The adults in this study reported significantly higher sexual victimisation compared to parents and would likely reflect a more accurate account of victimisation rates. Across all included studies, the reported rates of sexual violence for autistic adults ranged between 7.7% and 64%, physical violence between 8 and 60%, and emotional abuse (including bullying or humiliation from family or coworkers, cyber-bullying or harassment) between 22 and 70%. In a study that examined all domestic violence incidents in which police were called over an 11-year period, autistic adults were involved in 0.38% of incidents (n = 1,601) and in 28.23% of these incidents (n = 452) the autistic person was the victim.

These data concerning rates of violence were not comparable since reports cover time-frames ranging from the past three months to all adulthood; different definitions of violence are used; five studies were limited to adults aged under 30; and three studies were restricted to particular subgroups (late diagnosed women, those who had interacted with police in the previous five years and those involved in a domestic violence incident reported to police). By limiting



Table 3 Summary of Study Results

Reference       Violence time frame       Assessment Method       Rad         Bargiela et al., 2016; UK       All adulthood       Semi-structured       Sex         Brown et al., 2017; US       Last 5 years       Survey       Sex         Fardella et al., 2018; Canada       n/a       Semi-structured       n/a         Ghirardi et al., 2021; Australia       Last two years       Recent Traumatic       Sex         Gibbs et al., 2021; Australia       Last two years       Recent Traumatic       Sex         Gibbs et al., 2021; Australia       Since age 15       Survey       Sex         Gibbs & Haas, 2020; Australia       Last 5 years       Survey       Phys						
All adulthood Semi-structured interview  Last 5 years Survey  Prom age 15 National Registers  Events Scale (Pennebaker & Sussman, 1988)  Since age 15 Survey  Since age 15 Survey	rence	Violence time frame examined	Assessment Method	Rates of violence reported by type	Group differences	Correlates or risk factors identified
Last 5 years Survey  n n/a Semi-structured interview  From age 15 National Registers  Recent Traumatic Events Scale (Pennebaker & Sussman, 1988)  Since age 15 Survey  Last 5 years Survey	iela et al., 2016; UK	All adulthood	Semi-structured interview	Sexual violence: $n = 9$ (64%)	п/а	Themes related to passivity and people pleasing; difficulty reading others' intentions; social isolation meaning didn't learn safety strategies from peers; desperate for acceptance; uncertainty about social rules
n From age 15 National Registers Last two years Recent Traumatic Events Scale (Pennebaker & Sussman, 1988) Since age 15 Survey lia Last 5 years Survey		Last 5 years	Survey	Sexual violence: Autistic, $n=13$ (8.2%); $\chi^2$ (2, 34,879) = 231.80, non-autistic, $n=1.282$ (4.6%); other $p<.001, V=.08$ disability, $n=651, 9.3\%$	$\chi^2$ (2, 34,879) = 231.80, $p < .001, V = .08$	Gender i.e. higher proportion of autistic women $(n = 8, 61.5\%)$ and non-binary gender $(n = 3, 23.1\%)$ reporting unwanted sexual contact compared to autistic men $(n = 2, 15.4\%)$
n From age 15 National Registers  Last two years Recent Traumatic Events Scale (Pennebaker & Sussman, 1988)  Since age 15 Survey  lia Last 5 years Survey		n/a	Semi-structured interview	п/а	n/a	Themes related to lack of awareness of self and the environment; interpersonal knowledge/skills; lack of acceptance/inclusion
Last two years Recent Traumatic Events Scale (Pennebaker & Sussman, 1988) Since age 15 Survey lia Last 5 years Survey	ardi et al., 2023; Sweden	From age 15	National Registers	п/а	n/a	ADHD may be independently associated with a higher risk of being violently victimized
Since age 15 Survey  Last 5 years Survey		Last two years	Recent Traumatic Events Scale (Pennebaker & Sussman, 1988)	Sexual or physical violence: Autistic, $n = 26 (10.6\%)$ ; non-autistic, $n = 3 (6.1\%)$	$\chi^2$ (1,294)=.926, $p$ =.34	Gender i.e., higher proportion of autistic women reporting both physical and sexual violence. Both gender and autistic traits significant predictors of lifetime violence in regression model (gender, $b = .862$ , SE = .295, $p = .003$ ; autistic traits, $b = .029$ , SE = .013, $p = .028$ ). Emotion regulation was not significant
Last 5 years Survey	s et al., 2022	Since age 15	Survey	Sexual harassment: $n = 89 (75.4\%)$ ; Stalking & harassment: $n = 69 (58.9\%)$ ; sexual violence: $n = 67 (56.8\%)$ ; physical violence: $n = 69 (58.5\%)$	$\chi^2$ (1,225) = 10.02, $p$ = 002 $\chi^2$ (1,226) = 22.68, $p$ < .001 $\chi^2$ (1,221) = 22.04, $p$ < .001 $\chi^2$ (1,226) = 11.21, $p$ = .001	Gender: higher proportion of autistic women reported stalking and harassment, sexual violence and physical violence compared to non-autistic women—and multiple and repeated violence. High rates also reported for transgender and gender non-conforming
= u		Last 5 years	Survey	Physical violence: $n = 12$ (24%); harassment, $n = 11$ (22%), sexual violence, $n = 9$ (18%)	n/a	n/a



Table 3 (continued)					
Reference	Violence time frame examined	Assessment Method	Rates of violence reported by type	Group differences	Correlates or risk factors identified
Gibbs & Pellicano, 2023	All aduithood	Interview	п/а	n/a	Themes related to 'difficulty reading the room', recognising danger or abuse and tendency to take people at face value. Pressure to conform and 'fit in' and having their feelings, instincts and experiences invalidated by others leads to feelings of self-doubt in "grey" situations
Griffiths et al., 2019; UK	All adulthood	Vulnerability Experiences Quotient	Bullied by family member: autistic, $n = 234$ (55.5%); non-autistic, $n = 90$ , $34\%$ Pressured into sex: autistic, $n = 185$ (44%), non-autistic, $n = 60$ (23%) Bullied at work: autistic, $n = 231$ (54%), non-autistic, $n = 97$ (36%) Physically forced into sexual activity: autistic, $n = 111$ (26%), non-autistic= $n = 39$ (15%) Hurt so bad it left physical marks: autistic, $n = 145$ (34%); non-autistic, $n = 299$ (70%); non-autistic, $n = 299$ (70%); non-autistic, $n = 299$ (70%); non-autistic, $n = 22$ (9%) Partner forced into sexual activity: autistic, $n = 72$ (20%); non-autistic, $n = 45$ (18%) Partner threatening to hurt: autistic, $n = 78$ (22%); non-autistic, $n = 27$ (11%) Partner took advantage financially: autistic, $n = 27$ (11%) Partner thumiliated or embarrassed: autistic, $n = 27$ (11%) Partner humiliated or embarrassed: autistic, $n = 27$ (11%)	$\chi^2$ (1,692) = 29.12, $p$ > .001 $\chi^2$ (1,692) = 30.79, $p$ > .001 $\chi^2$ (1,692) = 21.17, $p$ > .001 $\chi^2$ (1,692) = 12.64, $p$ > .001 $\chi^2$ (1,692) = 94.22, $p$ > .001 $\chi^2$ (1,692) = 14.99, $p$ > .001 $\chi^2$ (1,692) = 11.64, $p$ > .001 $\chi^2$ (1,692) = 11.64, $p$ > .001 $\chi^2$ (1,692) = 16.92, $p$ > .001 $\chi^2$ (1,692) = 16.92, $p$ > .001 $\chi^2$ (1,692) = 16.99, $p$ > .001	n/a
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Table 3 (continued)

Reference	Violence time frame examined	Assessment Method	Rates of violence reported by type	Group differences	Correlates or risk factors identified
Hartmann et al., 2019; US	All adulthood	Sexual Experiences Survey (Koss & Oros, 1982)	Any sexual violence or coercion: $n = 62$ (62%) Partner so aroused that felt useless to stop them: $n = 34$ (34%) Had intercourse because partner threatened to end relationship: $n = 26$ (26%) Had intercourse because felt pressured by partners arguments: $n = 26$ (26%) Partner obtained sex by saying things they didn't mean: $n = 34$ (34%) Partner used physical force to try and make them engage in sex: $n = 19$ (19%)	n/a	n/a
Hwang et al., 2020; Australia	Police records of DV incidents related to adults 2005 – 2016	Police DV incident reports	1601 of the 414,840 DV events (0.38%) involved an autistic person. In 452 (28.23%) of the 1601 DV incidents involving autistic people, the autistic person was the victim of DV. Mean age of autistic victim = 29.8 (SD = 15.7), mean age of perpetrator = 36.1 (SD = 15.1), 42% (n = 131) were repeat victims, 58% of events (n = 181) involved male victims, 42% (n = 133) female victims. 26% of perpetrators were parent/carers, spouse/partner/girlfriend/boyfriend, 6% parent/guardian, 6% other family member	п/а	n/a
Libster et al., 2023	Since starting college	Survey	Unwanted sexual contact: autistic, $n = 44$ (16.3%); non-autistic, $n = 34$ (12.6%) Sexual assault: autistic, $n = 21$ (7.7%); non-autistic: $n = 24$ (8.8%)	n.s	Gender: women were 6.82 times more likely than men to have experienced unwanted sexual contact and were 9.94 times more likely than men to have experienced sexual assault. Co-occurring ADHD associated with higher rates of violence



Reference	Violence time frame examined	Assessment Method	Rates of violence reported by type	Group differences	Correlates or risk factors identified
Pearson et al., 2023 UK	All adulthood	Interview	n/a	п/а	Themes related to internalised stigma and othering, leading to expectation of poor treatment and difficulty recognising abusive behaviour. Strategies to fit in (i.e. masking) lead to compliance and people-pleasing which heighten risk of victimisation
Rothman et al., 2021; US	Past 12 months	Survey	Emotional abuse: autistic, $n = 453$ (44.3%); non-autistic, $n = 52,047$ (25.8%) Physical assault: autistic, $n = 85$ (8.4%): non-autistic, $n = 10,429$ (5.7%) Unwanted sexual contact: autistic, $n = 126$ (9.3%); non-autistic, $n = 22,304$ (9.0%)	$\chi^2 = 14.25, p < .001$ $\chi^2 = 3.95, p < .001$ $\chi^2 = 0.28, p = 0.782$	Depression associated with all three forms of interpersonal victimisation. Sense of belonging was associated with sexual assault and physical assault. Using moderation analyses with autism as a predictor, sense of belonging and depression as moderators: sense of belonging was protective against sexual assault and physical assault for autistic students regardless of depression level. However, for emotional abuse victimisation, autistic students with a higher sense of belonging who were experiencing depression were more likely to report experiencing emotional aggression than those with a lower sense of belonging
Triantafyllopoulou et al., 2022	Past 2 – 3 months	European Cyber- Bullying Intervention project questionnaire	Cyberbullying victimisation: $n = 23$ (31%)	n/a	Time spent on social media (more than 2 h per day), older age and male gender associated with cyber-bullying victimisation
Weiss & Fardella, 2018; Canada	All adulthood	Juvenile Victimisation Questionnaire – Adult Retrospective (modified)	Physical assault: autistic, $n = 27 (60\%)$ ; non-autistic, $n = 25 (59.5\%)$ Maltreatment: autistic, $n = 29 (64.4\%)$ ; non-autistic, $n = 21 (50\%)$ Peer co-worker victimisation: autistic, $n = 27 (60\%)$ ; non-autistic, $n = 23 (54.8\%)$ Sexual victimisation: autistic, $n = 21 (46.7\%)$ ; non-autistic, $n = 17 (40.5\%)$ sexual victimisation contact composite: autistic, $M = 0.67$ , $SD = 0.93$ ; non-autistic, $M = 0.29$ , $SD = 0.93$ ; non-autistic, $M = 0.29$ , $SD = 0.71$	$\chi^2 = 0.02, p = 0.96$ $\chi^2 = 1.85, p = 0.17$ $\chi^2 = 0.24, p = 0.62$ $\chi^2 = 0.34, p = 0.56$ $\chi = 1148.5, p = 0.03$	Neither social competence nor emotion regulation was associated with adult polyvictimisation in the autistic or non-autistic group



Table 3 (continued)

the data to the three studies that included both men and women and investigated rates of violence across all adult years (Griffiths et al., 2019; Hartmann et al., 2019; Weiss & Fardella, 2018), we could detect a range of 44% to 62% for sexual violence, 40% to 60% for physical violence and 60% to 70% for emotional abuse. Again, these studies are difficult to compare. Sample sizes ranged from 45 to 426 and five different self-report measures were used. Only one study included a population-based cohort (Ghirardi et al., 2023); however, data only pertained to violence that resulted in hospital attendance or death.

Rather than attempting to determine the "true" prevalence of interpersonal violence for autistic people during adulthood, it may be more instructive to ask whether the rates of interpersonal violence are different from that in the general (or another comparison) population. As shown in Table 3, seven studies provided comparisons of the prevalence of one or more forms of interpersonal violence reported by autistic people with that of non-autistic people. Three of these studies were drawn from US university samples. Among 34,879 US undergraduate college students, of which 0.45% had been diagnosed with autism (n = 158) and 20.1% had disabilities other than autism (n = 7,018), both autistic students (8.2%, n = 13) and those with other disabilities (9.3%, n = 651) reported significantly higher rates of unwanted sexual contact than did students without disabilities (4.6%, n = 1,282) in the previous five years on the university campus,  $\chi^2$  (2, n = 34,879) = 231.80, p < 0.001, V=0.08 (Brown et al., 2017). Unwanted sexual contact was defined as including "forcible fondling, sexual assault, forcible rape, use of drugs to incapacitate, forcible sodomy, gang rape, and sexual assault with an object" (Brown et al., 2017, p. 773). In another large sample of US college students (n = 219,633), autistic students (n = 1,141, 0.51%) were more likely to report emotional aggression (44% vs 26%, p < 0.001) and physical assault (8.4% vs 5.7%, p < 0.001) in the past year. There was no significant difference in reports of sexual assault (Rothman et al., 2021). The third college sample was based on a smaller sample size of 540, half of whom were autistic. In this sample there was no significant group difference in reported rates of unwanted sexual contact or sexual assault (Libster et al., 2023). Griffiths et al. (2019) surveyed 426 autistic adults (M = 44 years, SD = 14.37) and 268 non-autistic adults (M = 51 years, SD = 15.33) about a range of negative life experiences, including violence. Autistic adults reported significantly higher rates of all forms of violence during adulthood including bullying, sexual violence, sexual coercion, physical threats and physical assault when compared to non-autistic adults. Gibbs et al. (2022) also found higher rates of all forms of violence measured for autistic adults as well as repeated violence (more than one instance of the same type of violence) and multiple violence (experiencing more than one form of violence). Weiss and Fardella (2018) investigated a range of victimisation experiences in childhood and adulthood of 45 autistic adults and 42 non-autistic adults matched for IQ, education level, gender breakdown and minority status. Although there was no significant difference in the aggregate scores for physical assault, maltreatment, peer/co-worker victimisation or sexual victimisation, autistic adults scored higher on a composite score created by summing reports of any sexual victimisation that involved physical contact i.e., sexual assault, rape, attempted rape. Gibbs et al. (2021) found no significant difference in the rates of recent violence (physical or sexual violence in the previous two years) reported by 245 autistic adults compared to 49 non-autistic adults. Thus, in five of the seven studies comparing rates of violence between autistic and non-autistic people during adulthood, autistic adults reported higher rates of at least one form of violence.

#### **Risk Factors for Interpersonal Violence**

Only six studies included investigation of possible risk factors for interpersonal violence in their study aims. Most of them took a relatively narrow perspective, often focusing on the skills and psychological dispositions of the victims of violence rather than the broader social forces or other contextual elements that are likely to shape the overall experience of autistic people. Gibbs et al. (2021) found that autistic traits, but not emotion regulation, was a significant predictor of lifetime violence in their sample of 245 autistic adults. Weiss and Fardella (2018) found no relationship between either social competence or emotion regulation and poly-victimisation during adulthood in their smaller sample of 45 autistic and 42 non-autistic adults. Two studies found that co-occurring ADHD was associated with higher rates of reported violence (Ghirardi et al., 2023; Libster et al., 2023). Depression and sense of belonging were correlated with physical, sexual, and emotional aggression victimisation in the previous 12 months for autistic students (Rothman et al., 2021). Those with a higher sense of belonging were less like to report sexual or physical assault regardless of their levels of depression. However, in terms of emotional abuse victimisation, autistic students with a higher sense of belonging who were experiencing depression were more likely to report experiencing emotional aggression. In the three studies that investigated the relationship between gender and interpersonal violence, a higher proportion of autistic women and non-binary gender reported unwanted sexual contact compared to men (Brown et al., 2017), a higher proportion of autistic women reported experiencing either sexual or physical violence compared to autistic men (Gibbs et al., 2021, 2022) as well as multiple and repeated violence (Gibbs et al., 2022). Only one study which was focused solely on cyberbullying victimisation found higher rates of violence reported by men (Triantafyllopoulou et al., 2021). Only one study included a consideration of

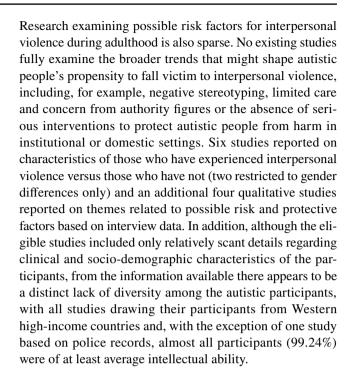


contextual factors, finding that most incidents did not involve use of drugs or alcohol and occurred in the context of intimate relationships and friendships (Gibbs et al., 2022).

Two qualitative studies involved conducting semi-structured interviews with autistic adults about general perceptions of risk and protective factors for interpersonal violence among autistic people (Fardella et al., 2018) and their prior experiences of violent victimisation (Gibbs & Pellicano, 2023). In both studies, thematic analysis of interviewee responses identified themes pertaining to individual and broader social factors. At the individual level, themes related to lack of awareness of potentially dangerous situations, difficulties identifying abusive relationships and reading social cues, lack of assertiveness and a tendency to take people at face value. At the broader social level, participants spoke of factors such as lack of awareness and/or understanding of autism, stigma and discrimination (Fardella et al., 2018) and how the way in which pressure to conform and 'fit in' as well as having their feelings, instincts and experiences repeatedly invalidated by others leads to feelings of selfdoubt in "grey" situations, leaving them vulnerable to abuse and manipulation. Although investigation of risk factors for interpersonal violence was not a specific aim in the qualitative studies of Bargiela et al. (2016) and Pearson et al. (2023), they nevertheless identified themes related to vulnerability to victimisation. In interviews conducted with late diagnosed autistic women offered possible reasons for increased vulnerability over their lifetimes including heightened passivity and people pleasing, difficulty reading others' intentions and uncertainty about social rules, social isolation and a desire for acceptance (Bargiela et al., 2016). Pearson et al. (2023) interviewed 102 autistic people who had experienced interpersonal victimisation. Participants spoke of stigma, discrimination and othering throughout their lives and how this led to expectations of poor treatment, struggles recognising abusive behaviour and strategies of masking, people-pleasing and compliance which increased vulnerability to victimisation.

#### Discussion

The current systematic review aimed to synthesise the extant research on interpersonal violence during adulthood to determine the extent to which disproportionate victimisation of autistic people continues into adulthood and to identify any factors that shape such experiences. Our most striking finding was the extremely limited number of studies on this topic. Only eight studies investigated the prevalence of interpersonal violence during adulthood exclusively, while an additional four studies collected data on prevalence as part of broader investigations into criminal justice experiences, general life experiences, or sexuality and trauma exposure.



# **Prevalence of Interpersonal Violence**

Despite these limitations, the results detailed in this review provide an initial insight into our first aim – to determine the prevalence of interpersonal violence among autistic people during adulthood. Across all studies, rates of sexual violence for autistic adults ranged between 7.7% and 64%, physical violence between 8 and 60%, and emotional abuse between 22 and 70%. This wide variation in prevalence is likely due to differences in types of violence being investigated, definitions of violence and measures used, age range and gender of participants. In addition, the time-frame covered varied widely, from the previous three months to all adulthood, with studies covering shorter time frames reporting much lower prevalence rates, e.g., rates of sexual and physical violence below 10% in previous 12 months only (Rothman et al., 2021) compared to rates over 45% in all adulthood (Weiss & Fardella, 2018). When the data were limited to the three studies that included both men and women and investigated violence across all adult years (Griffiths et al., 2019; Hartmann et al., 2019; Weiss & Fardella, 2018), the rates for sexual violence among autistic adults ranged between 44 to 62%, physical violence 40% to 60% and emotional abuse 60% to 70%, indicating that interpersonal violence - including serious forms such as physical and sexual violence - remains a significant issue for many autistic people into the adult years.

The reported rates appear substantially – and alarmingly – high compared to the general population where prevalence of violence ranges between 35 to 40% (Australian Bureau of Statistics, 2016; World Health Organisation, 2013). Only two



studies that collected self-report data from both autistic and non-autistic groups found no difference in rates of reported interpersonal violence (Gibbs et al., 2021; Libster et al., 2023). It is important to note, however, that in the Gibbs et al. (2021) study the mean age of autistic and non-autistic participants was 43 years, and the time frame was restricted to the previous two years only. In the general population, risk of interpersonal violence is generally highest during adolescence and early adulthood and declines substantially by middle adulthood (MacMillan, 2001; Morgan & Truman, 2019). It is possible that the older age of participants in this study and the limited time frame covered resulted in a lower reported rate of interpersonal violence reported (autistic: 10%, non-autistic: 6%). In the remaining five studies that included a comparison group, the autistic adults reported higher rates of at least one form of violence (Brown et al., 2017; Gibbs and Pellicano, 2023; Griffiths et al., 2019; Rothman et al., 2021; Weiss & Fardella, 2018), providing some indication of persistent, disproportionate victimisation into adulthood for autistic people. This finding is consistent with prior research into bullying victimisation of autistic children (Hellström, 2019; Mandell et al., 2005; Trundle et al., 2022) and the substantial body of research that has found higher rates of interpersonal violence among other vulnerable groups during adulthood such as those with severe mental illness (Hughes et al., 2012; Teplin et al., 2005) and intellectually-disabled people (Fisher et al., 2016; Khalifeh et al., 2013; Krnjacki et al., 2016). All of that said, however, the limited number of eligible studies combined with the variability in how these studies define violence, makes it difficult to draw firm conclusions about the prevalence of victimisation among autistic adults.

## **Risk Factors for Interpersonal Violence**

With regard to our second aim – that is, to identify potential risk factors for interpersonal violence among autistic adults - we identified twelve studies. In three studies that conducted gender comparisons of interpersonal violence, autistic women (Brown et al., 2017; Gibbs et al., 2021, 2022) and those identifying as non-binary gender (Brown et al., 2017) reported higher rates of interpersonal violence than autistic men. It is important to note that one study was focused on sexual violence only (Brown et al., 2017) and the others reported on combined incidence of sexual and physical violence (Gibbs et al., 2021). In the general population, men tend to report higher rates of physical violence and women report higher rates of sexual violence (Lauritsen & Carbone-Lopez, 2011; Morgan & Truman, 2019). There is, however, some indication of a narrowing of these differences among intellectually disabled people (Platt et al., 2017) and those with severe mental illness (de Mooji et al., 2015). One study compared gender patterns across a wider range of violence types (Gibbs et al., 2022) with autistic women and those identifying as non-binary or transgender reporting higher rates across all forms of violence than autistic men. In order to understand fully the extent to which gender influences risk of interpersonal violence for autistic people specifically, further research is needed that systematically compares interpersonal violence rates across gender for different forms of violence.

Three qualitative studies included in this review, drawing on interview data from a total of 58 participants, emphasised interpersonal knowledge, social skills and ways of relating to others as possible risk factors for interpersonal violence (Bargiela et al., 2016; Fardella et al., 2018; Gibbs & Pellicano, 2023). Themes included references to individual traits commonly found among autistic people (uncertainly about social rules, difficulty reading others' intentions, interpersonal knowledge) and which the autistic participants themselves perceived as contributing to their vulnerability to violence and abuse. Gibbs et al. (2021) found autistic traits to be a significant predictor of interpersonal violence in their sample of 245 autistic adults, however Weiss and Fardella (2018) found no relationship between social competence and poly-victimisation in their smaller sample of 45 adults.

Other individual risk factors identified in the qualitative studies, although referring to interpersonal behaviour, appeared to represent traits that may be more accurately described as those which may develop in response to certain contexts or prior experiences and thus highlight the interplay between individual and contextual factors for autistic people. For example, participants in the Bargiela et al. (2016) study spoke of being overly passive, engaging in people pleasing and being desperate for acceptance due to their prior negative social experiences. Societal factors such as stigma, discrimination and pressure to conform to neurotypical ways of being was linked by participants to feelings of self-doubt and heightened compliance (Fardella et al., 2018; Gibbs & Pellicano, 2023; Pearson et al., 2023) which in turn increases vulnerability to abuse and manipulation. Lack of acceptance and inclusion and the resultant social isolation may restrict opportunities to learn safety strategies from peers were also highlighted in the qualitative studies. Some supportive evidence for a relationship between inclusion and interpersonal violence came from the Rothman et al. (2021) study, where sense of belonging was found to be protective against both physical and sexual assault in a large sample of autistic students. These findings suggest that prevention strategies need to be targeted and multi-faceted. In the short term, bolstering autistic people's knowledge and skills through education programs, particularly in relation to identifying "red flags" for abuse and direct teaching around consent and coercion may assist in reducing autistic people's vulnerability to violence, particularly in close relationships. More important, however, is the need to address the systemic and social factors that perpetuate such violence, such as stigma and



discrimination, which additional work has shown contributes to isolation and exclusion for autistic people (Kinnear et al., 2016; Mazumder & Thompson-Hodgetts, 2019), restricted opportunities to learn about relationships from peers (Cheak-Zamora et al., 2019) and may also result in "settling" for unhealthy relationships (Pearson et al., 2022) and adopting passive or compliant ways of engaging with others (Carter-Sowell et al., 2008). Awareness-building programs about autism aimed at improving knowledge and attitudes (see Campbell et al., 2019; Staniland & Byrne, 2013) developed and delivered in partnership with autistic people (Gillespie-Lynch et al., 2021) should target education, health and community services in order to increase understanding and acceptance of autism, reduce stigma and discrimination and, in turn, reduce the risk of victimisation.

#### Limitations

One major limitation of this review is the scarce amount of research that has been conducted in this area, resulting in a small number of articles, particularly in relation to risk factors for interpersonal violence. In addition, the studies that investigated possible risk factors were cross-sectional in nature, which limits any inferences about causal mechanisms. Due to the minimal research in this area, the possible risk factors reported herein are considered speculative only. The context in which violence occurs is also an important consideration when understanding possible risk and protective factors for violence. For example, in the general population, men are more likely to be victimised by people not known to them whereas women are most likely to experience violence at the hands of a male partner (Harrell, 2012; World Health Organisation, 2002). Violence is most likely to occur during early adulthood (Conley et al., 2017; Fedina et al., 2020) and often occurs in situations where one or both parties are under the influence of alcohol (Duke et al., 2018; Espelage et al., 2018). Yet, in spite of this knowledge, only one study provided data on any contextual factors (Gibbs et al., 2022). Furthermore, the focus in relation to possible risk factors has largely been on the individual with little consideration of the broader social, cultural and economic contexts.

Prevalence estimates drawn from the included studies for each form of violence varied widely. Explanations for this variation include differences in measures used, definitions of violence and time-frames covered. There are no measures of interpersonal violence that have been validated for use with autistic adults and only one study (Griffiths et al., 2019) used a measure that had been developed with input from autistic adults. Overall, sample characteristics were not well-characterised. For example, only half of the studies reported participants' racial/ethnic background and employment status and no study reported on the socio-economic status of participants. Presence of any pre-existing co-occurring mental health problems were only reported in four studies.

Participants were all from high income Western countries and were predominantly well educated. Individuals with intellectual disability accounted for less than 1% of study participants despite the documented higher rates of interpersonal violence among people with cognitive disabilities (Byrne, 2018).

# **Implications for Policy, Practice and Future Research**

Our findings have implications for policy and practice. It is important that autistic adults who have experienced interpersonal violence are able to access timely and appropriate mental health services. Mental health professionals are well versed in conducting risk assessments for possible perpetration of violence, but are less likely to routinely include questions about violent victimisation, with many forms of violence, particularly sexual violence, going undetected in clinical care settings (Chapman & Monk, 2015; Oram et al., 2017). This is likely to be exacerbated for autistic people who often have difficulty accessing appropriate mental health care (Crane et al., 2019) due to lack of confidence and competence among mental health professionals in relation to autism (Lipinski et al., 2021; Maddox et al., 2019). Mental health professionals should be trained in identifying and responding to violent victimisation of autistic people, including awareness of the increased risk of being a victim of violence compared to the general population and the unique risk factors that may need to be considered in treatment formulation. Screening for post-traumatic symptoms should be included as routine background assessment for autistic people presenting with psychological distress. Clear referral pathways to specialist support and advice for autistic people who have experienced violence should also be implemented.

The current review also highlighted a number of important avenues for future research. First, consistent use of standardised measures of interpersonal violence which have been validated for use with autistic people in future studies will assist in reliably capturing prevalence rates. Second, all of the existing studies were cross-sectional in nature. Future research would benefit from longitudinal designs with wellcharacterised samples that can elucidate the pathways to various forms of interpersonal violence in adulthood and identify predictors and potential opportunities for prevention work. Longitudinal research would also assist in identifying any sub-groups of autistic people that may be at particular risk, such as those of minority gender or sexual orientation, or co-occurring intellectual disability and/or mental health conditions. Third, although it was not possible to draw any firm conclusions on risk or protective factors from this review, there was an indication that both individual and broader social factors play a role in vulnerability to interpersonal violence. Thus, future research is needed that can elucidate these factors to identify what may be done to reduce autistic adults' risk of



interpersonal violence, including both social changes (e.g., widespread training to reduce stigma and discrimination) and individual support (e.g., targeted skills building, assertiveness training). Research that explores the contextual factors surrounding interpersonal violence experiences will also provide important information regarding interpersonal violence experiences. Fourth, given the negative impacts associated with interpersonal violence (Coker et al., 2002; Dutton et al., 2006; Dworkin et al., 2017; Lagdon et al., 2014) and the importance of social supports and timely and appropriate mental health treatments (Ehring et al., 2014; Fortin et al., 2012; Van Etten & Taylor, 1998), it will be critical to investigate help-seeking behaviour and responses from formal and informal supports for autistic victims of interpersonal violence in future studies.

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Author contributions Vicki Gibbs and Elizabeth Pellicano contributed to the study conception and design. Data collection was conducted by Vicki Gibbs. Vicki Gibbs and Emma Gallagher conducted abstract and full text reviews and quality analysis with supervisory input from Elizabeth Pellicano. The first draft of the manuscript was written by Vicki Gibbs. Elizabeth Pellicano, Emma Gallagher and Jennie Hudson commented on subsequent versions of the manuscript. All authors approved the final manuscript.

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#### **Declarations**

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

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