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Exploring the impact of bullying on people with intellectual disabilities

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Chapter 1: Systematic Review

Exploring the impact of bullying on the mental health and wellbeing of children and adults with an Intellectual Disability: A Systematic Review and Narrative Synthesis

Prepared in accordance with the author requirements for Journal of Applied Research in Intellectual Disabilities (JARID); Appendix 1.1

Abstract

Background: People with intellectual disabilities are often subjected to bullying. The literature indicates there is a link between poorer mental wellbeing and bullying in the typically developing population, therefore it is important to understand how bullying is related to the mental wellbeing of people with intellectual disabilities across the lifespan.

Methods: A search of four electronic databases was conducted. Eight studies met criteria for inclusion within the review, four each examining the child/adolescent and adult populations respectively. A novel quality rating tool was developed to assess the methodological quality of studies. A narrative synthesis approach was used.

Results: Bullying appears to be linked to poorer mental health and social skills difficulties in people with intellectual disabilities. The findings for the child/adolescent population produced mixed findings, whereas the adult population findings were more consistent.

Conclusion: While there does appear to be a negative association between bullying and mental wellbeing, the studies should be interpreted with caution as there was variability in methodological approaches. It is recommended that future research should aim to use reliable measures and utilise longitudinal designs.

Key words: intellectual disabilities, bullying, mental wellbeing

Introduction

Bullying is a phenomenon and social problem that is age old (Allanson, Lester, & Notar, 2015), and yet it only surged as a topic of interest to researchers in the early 1970's in Scandinavia (Olweus, Limber, & Breivik, 2019). As our collective understanding of bullying has developed, public opinion about bullying has transformed from the belief it is a natural part of social bonding to the view that it is unacceptable behaviour with harmful consequences (Allanson et al., 2015).

Olweus (2013) described bullying as a common negative interpersonal experience characterised by repeated forms of aggressive or hostile behaviour which causes distress to the intended individual. Moreover, within the context of a bullying dynamic, a power imbalance exists whereby the victim is likely to find it difficult to defend themselves (Olweus, 2013; Olweus et al., 2019). While actual bullying estimates are very difficult to quantify, research indicates that around 1 in 4 children aged between 12 and 18 years experience bullying in the United Kingdom, with a rate of 13.5% over all ages and genders in Scotland (Smith, 2021). The most common forms of bullying were found to be social exclusion and verbal bullying, with both reported over 85% of the time by victims (Smith, 2021). Further, Bernstein and Stevens (2022) reported that roughly a quarter of adults in a sample size of over 2000 employees in small/medium size companies stated they were bullied at work. Adults who reported bullying at work to human resources often found their claims were not taken seriously (Bernstein & Stevens, 2022).

There is an established evidence base which indicates that people who experience bullying are at elevated risk of experiencing poorer mental wellbeing (Moore et al., 2017; Verkuil, Atasayi, & Molendijk, 2015). In a large cross-national survey, Nansel et al. (2004) found that bullying was associated with adverse psychosocial outcomes including poor emotional adjustment and relationships with peers. Evidence also indicates that victims of bullying are susceptible to a wide range of mental health problems such as anxiety, depression, and social isolation (Arseneault, Bowes, & Shakoor, 2010). The evidence shows that difficulties experienced by the victim can persist, and that children who were bullied often continue to endure the deleterious effects of bullying in adulthood (Arseneault et al., 2010; Olweus, 2013).

People with intellectual disabilities are often subjected to various forms of discrimination, and they are one of the most stigmatised groups in society (Scior et al., 2020). It is perhaps not surprising then that they are bullied more often than their typically developing peers (Christensen, Fraynt, Neece, & Baker, 2012). Recently, Brendli, Broda and Brown (2022) found that people with intellectual disabilities are almost three times more likely to be victimised compared to peers without a disability. Several factors may be implicated in the increased risk of bullying in people with intellectual disabilities. Maiano et al. (2016) proposed that young people with intellectual disabilities are more likely to lack social skills, have poorer awareness of danger, and are more likely to be manipulated in social situations. They are also likely to be more dependent upon others for social support, due to their adaptive and cognitive difficulties. It is therefore important to investigate the distinct patterns of bullying behaviour exhibited towards people with intellectual disabilities, as differences may be associated with the attributes of their disability, their life circumstances, and discriminatory societal attitudes.

Not only do people with an intellectual disability experience bullying more often, but it is possible they may be more adversely impacted by bullying (Whitney et al., 2019). Studies indicate that they may feel more vulnerable than their typically developing peers. Forte, Jahoda, and Dagnan (2011) found that bullying was one of the main worries for students with intellectual disabilities when transitioning from school to college. They spoke about past experiences of bullying and how this remained a worry even when bullying ceased, which the authors concluded was likely due to awareness of their own stigmatised status (Forte et al., 2011). Griffin, Fisher, Lane, and Morin (2019) found that participants attributed being bullied to vulnerabilities and differences between themselves and the bully, such as having an obvious disability. They also reported the extent to which bullying experiences were hurtful and spoke about experiences which bordered between bullying and outright abuse (Griffin et al., 2019).

While there has been mounting interest in the impact that bullying has on an individual’s mental health and wellbeing in recent years, few studies have focused specifically on people with intellectual disabilities (Mishna, 2003). Instead, studies often include this population in heterogenous developmental disability groups (Didden et al., 2009; Wright, 2017). While it is helpful to examine how bullying impacts different disability groups, people with intellectual disabilities are distinct from other groups in that they have unique impairments in intellectual and adaptive abilities (Maiano et al., 2016). Therefore, effects that could be occurring for this group may be missed by combining different disability groups. Further, there is some debate in the literature as to whether the effects of bullying on people with intellectual disabilities are different to that of a typically developing individual (Maiano et al., 2016). Consequently, it would be beneficial to examine the literature to assess specifically how the mental health and wellbeing of people with intellectual disabilities is impacted by bullying victimisation.

A recent systematic review, which examined bullying and cyberbullying in people with intellectual disabilities, identified 37 journal articles in English and Spanish (Martinez-Cao, Gomez, Alcedo, & Monsalve, 2021). Part of the authors' objectives were to understand the physical and psychological consequences of bullying behaviour. They determined that people with intellectual disabilities experience more severe mental health difficulties compared to their typically developing peers. However, this conclusion was based on evidence from just three of the papers reviewed. It is also noteworthy that the review did not include a quality rating tool, did not sufficiently summarise the evidence base, and included a combination of quantitative and qualitative journal articles (Martinez-Cao et al., 2021). The review also focused only on the child and adolescent population. A more rigorous systematic review, examining the impact of bullying on mental health and wellbeing outcomes related to both children and adults with intellectual disabilities, would provide insight into the impact of bullying for this population across the lifespan.

This systematic review aims to explore the impact of bullying on the mental health and wellbeing of children and adults with intellectual disabilities. The research questions are:

(1) Is bullying associated with poorer mental health and wellbeing outcomes in children and adults with intellectual disabilities?
(2) Does the evidence indicate that there are differences in mental health and wellbeing outcomes associated with bullying between people with intellectual disabilities and typically developing individuals?

Methods

Search strategy

This systematic review was completed in accordance with the established guidance set out in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher, Liberati, Tetzlaff, & Altman, 2009). The following databases were searched: MEDLINE (2000 to present) via Ovid, Embase (2000 to present) via Ovid, CINAHL (2000 to present) via EBSCOhost, and PsycINFO (2000 to present) via Ovid. All searches were carried out on 25/02/2023 using the University of Glasgow library services.

The subject headings and keywords of the searches were determined after liaising with university librarians. It was agreed that using broad search strategies for terms associated with ‘bullying’ and ‘intellectual disability’ would increase the sensitivity of the search. We decided not to include terms associated with ‘mental health’ as this would be too specific and could exclude potentially relevant studies. Down syndrome was included as it is the most common genetic cause of intellectual disability (Patterson, 2009). It is also the most prevalent genetic syndrome associated with intellectual disability (Patterson, 2009). Searches were conducted from the year 2000 onwards. This decision was made on the basis that this was a period that marked a significant shift from institutional to community integrated care (Beadle-Brown, Mansell, & Kozma, 2007). The movement to community care is likely to have altered the ways in which people with intellectual disabilities are bullied. Table 1 contains the final search terms that were used for the search.

Table 1: Search terms

((intellectual* or learning or mental*) adj2 (disab* or deficien* or retard* or handica*)).ti,ab.
OR
(down* adj1 syndrome).ti,ab.
AND
(bull* or cyberbull* or victimi* or harass*).ti,ab.

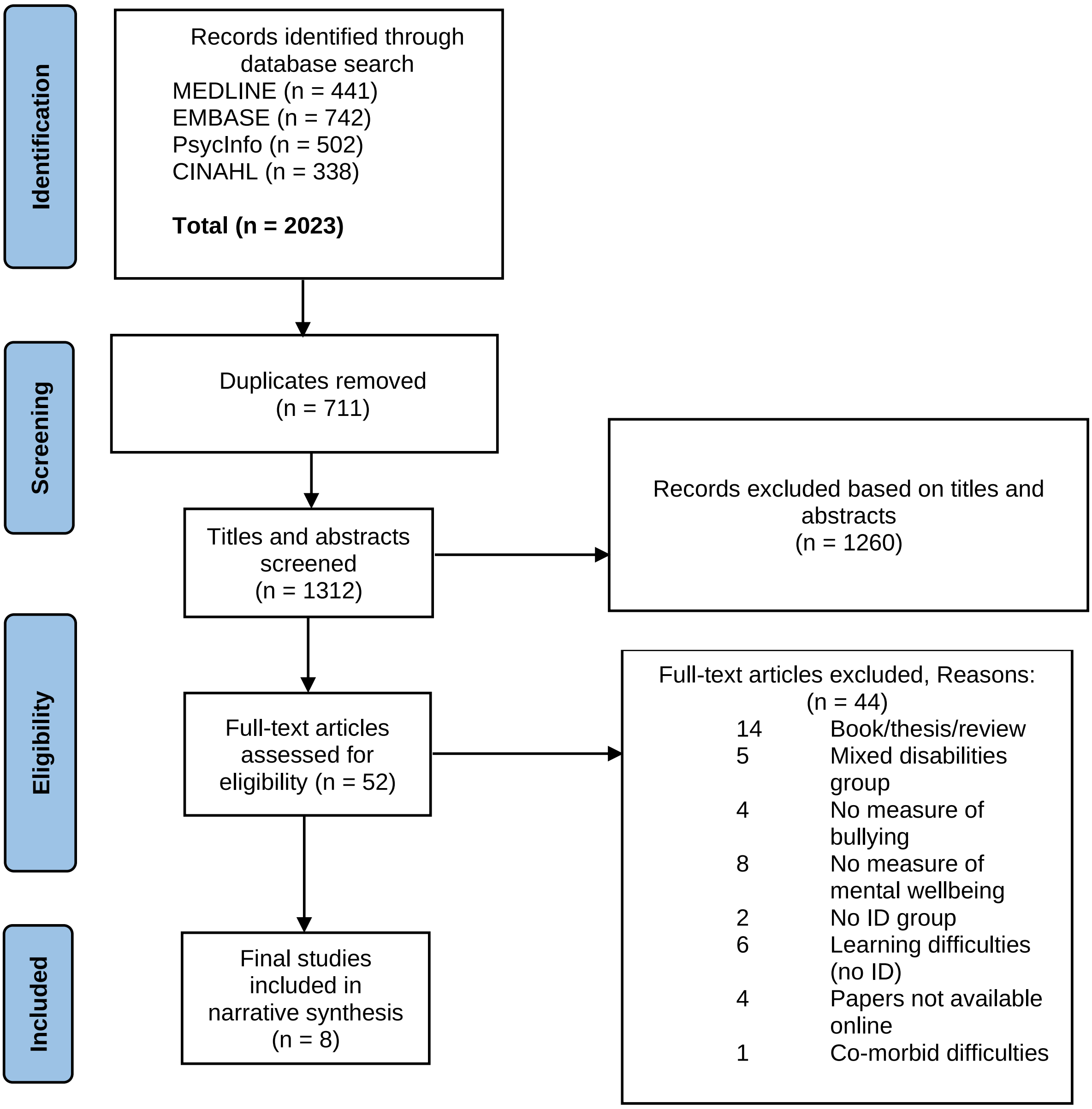
Study selection

Studies were selected for inclusion in the review if they: (i) included participants with an intellectual disability with outcomes that could be attributable to this population; (ii) provided some measure of bullying which was quantifiable; (iii) examined some feature of mental health or wellbeing as a consequence of being bullied (e.g. depression); (iv) were a quantitative study or contained a quantitative component within the design (e.g. mixed methods); (v) were a full report which was published in a peer reviewed journal; (vi) were published in the English language. Studies were excluded if they: (i) were qualitative studies; (ii) were discussion papers, literature reviews, case reports, letters, book chapters, dissertations, or if the full text was not available online; (iii) provided no information about participants’ intellectual disability diagnosis (e.g. how this was confirmed); (iv) contained data from participants with intellectual disabilities that combined data from other participant groups and could not be extrapolated.

There were no restrictions on participants’ age, setting, or geographical location. Participants could be from clinical or non-clinical samples. Studies were excluded if their sample contained only people with a severe intellectual disability. This is because individuals with a more severe intellectual disability may have difficulty understanding or communicating about incidents of bullying.

After conducting database searches using the search terms described above, a total of 2023 studies were identified. Any duplicate articles were removed using Zotero software (n = 711). The remaining journal article titles and abstracts were read (n = 1312), and these were checked against the inclusion/exclusion criteria. Journal articles which did not meet criteria were removed from further analysis (n = 1260), and the rest of the articles were read in full (n = 52). Following this process, 8 studies were selected for inclusion in the systematic review. A PRISMA flowchart which details the above search process is outlined in Figure 1.1.

Figure 1.1 Flow chart of systematic search process and study selection



Note: ID = Intellectual Disability

Data analysis

Due to the heterogeneity of the methods and outcome measures used, it was not feasible to conduct a meta-analysis of studies. Therefore, a narrative synthesis approach was adopted to describe the outcomes of the studies and examine any patterns found (Popay et al, 2006).

Quality appraisal

As the studies selected for inclusion in the review were not outcome or intervention studies, it was decided that established quality checklists such as the Consolidated Standard of Reporting Trials guidelines (CONSORT; Altman et al., 2001) would not be appropriate. This review also included studies which used different types of research design (longitudinal, cross-sectional); therefore it was not possible to use a standardised quality assessment tool (Ma et al., 2020). The Appraisal tool for Cross-Sectional Studies (AXIS; Downes, Brennan, Williams, & Dean, 2016) served as a reference point to select key criteria that could be included in a novel quality appraisal tool. The key criteria were selected based on several domains within the AXIS considered to be vital in assessing the quality of the selected studies. These were: i) study questions; (ii) study design; iii) sample characteristics; (iv) measurement of bullying; (v) measurement of mental wellbeing; (vi) assessment of intellectual disability and (vii) consideration for confounding factors. Two key criteria items (study questions and consideration for confounding factors) were ranked on a 3 point Likert scale. All other key criteria items were ranked on a 4 point Likert scale. The full quality rating tool and scoring are shown in Appendix 1.2.

Due to the scoring method applied, each study could be assigned an overall quality score. Studies were also ranked as either ‘excellent’, ‘good’, ‘adequate’ or ‘poor’ according to how well they scored on quality criteria. The quality rankings according to overall categorical quality score is shown in Table 2. This system was developed to allow higher quality studies to be recognised for their methodological rigour, for example acknowledging that a longitudinal design is superior to a cross sectional design in terms of research quality.

A second rater independently reviewed four (50%) of the papers to ensure the quality ratings were reliable. There was 93% agreement across the checklist items, indicating very high agreement between raters (see Appendix 1.3 for quality rating scores). Any differences in opinion were resolved through discussion.

Table 2: Quality rankings

Ranking	Description of rankings
Excellent	Score of 3 on measure of intellectual disability Score of 2+ on all key measures Score of 1+ on all other criteria Quality ranking score > 14
Good	Score of 2 on measure of intellectual disability Score of 2+ on bullying and mental wellbeing Score of 1+ on all other criteria Quality ranking score > 9
Adequate	Score of 1+ on most criteria Quality ranking score > 6
Poor	Quality ranking score < 5

Results

Quality ratings of studies

There was variability in the quality of studies included in this review and there are several possible explanations for this. Only one of the studies met criteria for an excellent ranking, with four ranked as good and three ranked as adequate (Table 3). The main reason for this is that many studies lacked a full assessment of intellectual disability status. As per guidelines for research in people with intellectual disabilities, proper assessment is important to ensure that participants do have an intellectual disability (Dalton & McVilly, 2004). However, four studies did provide evidence that the participants had completed an assessment process and had been confirmed to have an intellectual disability. This was deemed more robust than using external sources such as caregiver reports to validate disability status, as occurred in two of the three studies ranked as adequate (Cluley, 2018).

The majority of the studies used a cross-sectional design. Two studies used a longitudinal design, which allowed cause and effect to be examined. Cross-sectional designs with control groups ranked second in terms of study design. These studies compared the effects of bullying on people with intellectual disabilities to either typically developing individuals or to people with other disabilities (Yang et al., 2022b). Only two studies included a typically developing control group comparison; one study used a longitudinal design (Hatton, Emerson, Robertson, & Baines, 2018) and one study used a cross-sectional design (Christensen et al., 2012).

Generally speaking the measures used to assess bullying had good internal validity, with only one study (Emerson, 2010) simply asking whether bullying took place or not. However, it should be noted that the measures used for bullying were highly variable across studies, making it difficult to assess the applicability of the outcomes obtained from studies. Nevertheless, the studies did attempt to capture important features such as type, frequency, and severity for bullying measures. Measures for mental wellbeing also varied across studies, however these were of good quality as they used or adapted existing standardised instruments.

Controlling for confounding variables was considered an important aspect of quality as many sociodemographic factors, aside from bullying, could have impacted on participants' mental wellbeing. Five of the studies controlled for possible confounders (e.g. protective relationships) within their statistical analyses, which contributed towards excellent or good rankings. However, two of the three studies ranked as adequate either did not accommodate for this or only acknowledged confounding factors in their discussion (Fisher, Moskowitz, & Hodapp, 2012; Reiter & Lapidot-Lefler, 2007).

Participant characteristics

Overall, the studies within the review included 18,107 participants; 3,279 were in an intellectual disability group (18.1%) and 14,778 were in a typically developing group (81.6%). A small proportion of participants in one of the studies had developmental disabilities that did not feature an IQ below 70 (n = 50, 0.3%). There was a sample size range from 46 – 14,687 participants. The largest sample size was from a secondary analysis of data from a large general population cohort (Hatton et al., 2018). The mean sample size was 1,811 participants.

Four of the studies focused on a child and adolescent population (Chiu, Kao, Tou, & Lin, 2017; Christensen et al., 2012; Hatton et al., 2018; Reiter & Lapidot-Lefler, 2007) and the remaining four focused on an adult population aged over 16 years (Emerson, 2010; Fisher et al., 2012; Jenaro et al., 2018; Yang, Tzeng, & Lin, 2022a). The outcomes from the child and adolescent studies and the adult studies will be discussed separately (Table 3).

It is interesting to note there were fewer papers addressing research question two (differences in mental wellbeing outcomes between people with intellectual disabilities and typically developing individuals, which are linked to bullying). It should be acknowledged that the lack of studies investigating group differences in people with and without intellectual disabilities is an important finding in itself. This is an area which would benefit from more rigorous and systematic investigation of the possible differences between people with intellectual disabilities and typically developing individuals, in terms of how bullying may adversely affect mental wellbeing.

Table 3: Studies examining impact of bullying on mental wellbeing outcomes in people with intellectual disabilities

Studies with children and young people

Study, location & quality ranking	Design	Aim/hypothesis	Sample	Measures	Main findings & effect sizes	Limitations
Chiu et al. (2017)[a] Taiwan Good (14)	Cross-sectional	Aims: (1) to investigate the prevalence of various types of bullying victimisation among adolescents with ID. (2) to assess the influence of victimisation experience on the mental health of adolescents with ID in a nationally representative sample. Hypothesis: higher victimisation will result in greater likelihood of mental health difficulties in adolescents with ID.	Adolescents with ID taking part in the Special Needs Education Longitudinal Study (SNELS). 706 participants with ID (405 male, 301 female). Grade 7 = 271 Grade 10 = 265 Grade 12 = 170	Measure of ID: Identified from hospital records or by Special Education Needs Committee in the local government. Measure of bullying: Chinese version of the School Bullying Experience Questionnaire (C-SBEQ). Measure of mental wellbeing: Self-reported 7 item short version subscale (SCL-7) adapted from the Symptom Checklist-90-revised.	50% of participants experienced social exclusion, 72% experienced verbal bullying, and 69% experienced at least one type of victimisation. Social exclusion ($\beta = 1.00$; 95% CI, 0.37–1.64; $p < 0.01$) and verbal bullying ($\beta = 1.90$; 95% CI, 1.26–2.53; $p < 0.01$) were associated with significantly higher scores of psychological distress (PD) across all grades. These bullying types (alongside multiple forms of bullying) significantly predicted higher PD scores after controlling for confounding variables.	SCL-7 assessed multiple areas of mental wellbeing but only produced an overall composite score. Self-report data may have been subject to recall bias, no caregiver or teacher reports obtained. Adolescents completed measures alone, with those who were unable to excluded, which could lead to biased sampling. No control group comparisons.
Christensen et al. (2012)[b] US Excellent (15)	Cross-sectional	Aims: (1) to investigate if status group differences exist in the prevalence, chronicity, and severity of being the victim of bullying in early adolescence. (2) to explore whether youth with ID are more often victimised, and if this is accounted for by behaviour problems and/or social skills deficits often associated with ID. Hypotheses: (1) adolescents with ID will likely be at increased risk of victimisation. (2) factors associated with ID status may partly explain this elevated risk.	Adolescents with either ID or typical development (TD) – and their families – taking part in the Collaborative Family Study. 137 mothers provided caregiver responses. 46 participants in ID group (29 male, 17 female). 91 participants in TD group (48 male, 43 female). All adolescents aged 13.	Measure of ID: Wechsler Intelligence Scale for Children (WISC-IV) and Vineland Scales of Adaptive Behavior-II (VABS-II). Accepted as having ID if both scores below 85 (1 SD). Measure of bullying: Semi-structured interviews with parent and adolescent separately asking about bullying (responses coded). Measure of mental wellbeing: Child Behaviour Checklist (CBCL). Other measures: Parent Rating of Social Acceptance (PRSA).	Adolescents with ID were more likely to be bullied than their TD counterparts. There were no significant differences when comparing chronicity or severity of bullying. Bullying was not significantly related to externalising problems of aggression/rule breaking, or difficulties with anxiety/depression. There were however significant associations between bullying and social problems ($t = 2.87$; $p < 0.01$) and social withdrawal ($t = 2.64$; $p < 0.01$). When controlling for confounding variables, status group no longer predicted bullying, but social problems and withdrawal did ($\beta = 0.14$; $W = 4.33$; $p < 0.05$).	Did not specify if interviews explored different types of bullying (no responses coded for this). Findings for impact of bullying on mental wellbeing may have resulted in type II errors due to alpha being set at .01.

Hatton et al. (2018)[b] UK Good (15)	Longitudinal design	Aim: (1) to explore possible differences in reports of mental health and bullying among children and adolescents with and without an ID. Hypotheses: (1) there will likely be differences between groups in exposure to peer victimisation. (2) between-group differences in mental health may still be apparent after controlling for confounding variables.	Children and adolescents with and without ID attending independent secondary schools, pupil referral units. TD group = 14,687 participants at Wave 1 (age 13/14 years) and 10,721 participants at Wave 4 (age 16/17 years), retention rate is 73%. Estimates for gender were 50% male, 50% female. ID group = 527 participants at Wave 1 (age 13/14 years) and 314 participants at Wave 4 (age 16/17 years), retention rate is 60%. Estimates for gender were 65% male, 35% female.	Measure of ID: Used Special Educational Needs (SEN) category of Moderate Learning Difficulty (MLD) as an indicator of mild/moderate ID. Measure of bullying: Peer victimisation questionnaire (created for the study). Measure of mental wellbeing: General Health Questionnaire (GHQ-12).	At wave 2, all types of bullying were associated with poorer mental health in males and females with and without ID, however social exclusion was much more strongly associated with potential mental health problems for males with ID (PR = 7.40; 2.68–20.40; $p < 0.001$). This was still the case at wave 4 for males and for females without ID. Participants with ID were significantly more likely than their TD peers to be socially disadvantaged. When controlling for confounding factors, there were no differences between the groups in mental health problems.	Lack of evidence supporting the use of the GHQ-12 with adolescents with ID. The GHQ-12 measures incidence of newly developed mental health problems rather than chronic issues, which could have affected desired responses. Attrition rates for people with ID were high compared to those without ID, and attrition for people with ID was associated with higher emerging mental health problems, meaning a significant part of the sample may have been lost.
Reiter and Lapidot-Lefler (2007)[a] Israel Adequate (9)	Cross-sectional	Aim: to examine whether there are differences in social skills between students identified as victims of bullying. Hypotheses: (1) victims of bullying will obtain lower scores on social skills. (2) victims of bullying will obtain a higher score on the dimensions of problems in relations with peers and emotional problems in comparison with bullies and bully-victims.	Children and adolescents with ID attending two special education secondary schools. 186 participants with ID (56.5% male, 26.3% female of the total school population). Aged 12-21	Measure of ID: Selected from the population of two special education junior high and high schools. Measure of bullying: Harassment/Bullying Questionnaire; three items from Breaking the Silence questionnaire added covering theft and sexual harassment. Measure of mental wellbeing: Self-Descriptive Questionnaire (measures social adjustment). Other measures: Teacher's Report Form (aggressiveness questions); Social Skills Rating System.	83% of participants experienced at least one type of bullying. Social skills did not significantly differ between groups. Victims of bullying were significantly associated with higher levels of emotional problems ($r = 0.29$; $p < 0.01$) and difficulties with interpersonal relations ($r = 0.20$; $p < 0.05$).	Reduced the sample size of participants identified in order to create separate groups for bullies, victims, and bully-victims. No measure of ID. No discussion or effort was made to control for possible confounding variables. No clear description on what the measures used represented specifically (e.g. what did 'emotional problems' consist of). No figures or tables used to convey results. No control group comparisons.

Studies with adults

Study, location & quality ranking	**Design**	**Aim/hypothesis**	**Sample**	**Measures**	**Main findings & effect sizes**	**Limitations**
Emerson (2010)[a] UK Adequate (12)	Cross-sectional	Aim: to observe if overt acts of bullying and discrimination impact negatively on various health outcomes in people with ID (intellectual disabilities). Hypotheses: (1) self-reported exposure to disablism will be associated with poorer health and well-being among adults with ID. (2) effects of bullying and disablism may be moderated by the material and social resources available to people.	Adults with ID living in general households, private households, and supported accommodation. 1273 participants with ID (738 male, 535 female). Aged 16-25 = 481 Aged 25-54 = 624 Aged ≥55 = 134	Measure of ID: Administrative records identified people using ID specific services. Also screening survey to assess for ID (excluded if evidence of no ID). Measure of bullying: Questions on whether bullying occurred at school or in the last year (due to ID status). Measure of mental health: Adapted version of Millennium Poverty and Social Exclusion Survey (MPSES) and general wellbeing question. Other measures: Use of MPSES to assess socio-economic circumstances and social resources.	50% of participants had been bullied at school, 34% reported discrimination due to their ID in the last year. Adults with ID who reported prior bullying (OR = 1.52; 1.15–2.01; $p < 0.01$) and discrimination (OR = 1.39; 1.05–1.83; $p < 0.01$) had significantly poorer self-reported wellbeing than their peers who did not have these experiences. After controlling for confounding variables, bullying/discrimination still predicted feeling less happy, and feeling sad, helpless, and left out often. Social and material resources helped to moderate the strength of 46% of these associations.	No formal measures of ID and therefore severity of ID status not documented. No information on frequency or types of bullying or discrimination behaviours experienced by participants. Self-report measures were not fully corroborated by reliable third-party sources. No control group comparisons.
Fisher et al. (2012)[a] US Adequate (10)	Cross-sectional	Aims: (1) to develop a questionnaire to identify and measure potential factors related to increased vulnerability to social victimisation. (2) to determine whether vulnerability was related to characteristics of the individual's demographics and behaviours. Hypothesis: demographic and behavioural characteristics of people with IDD (intellectual and developmental disabilities) can predict vulnerability to multiple types of victimisation.	Adults and adolescents with IDD living with parents or guardians. Parents/guardians contacted through support groups, disability camps, websites, and mailing lists. 144 parent/guardian responses. 146 people with IDD (82 male, 64 female), 66% with ID (IQ below 70). Sample included genetic conditions (50.7%), ASD (19.9%), unspecified ID (12.3%), and other disabilities (e.g. psychiatric conditions). Age – M = 24.5; SD = 8	Measure of ID: Parents/guardians estimated level of IQ, ID status was assigned to those with an estimated IQ below 70. Measure of bullying: Social Vulnerability Questionnaire (SVQ) – developed for the study. Measure of mental health: Child Behaviour Checklist (CBCL).	There were no significant differences between estimated IQ level and emotional bullying scores. Emotional bullying scores were significantly related to internalising ($r = 0.28$; $p < 0.001$) and externalising ($r = 0.34$; $p < 0.001$) problem behaviours. Specific examples of victimisation were given by responders, with the most common types being verbal bullying, theft/financial exploitation, and physical bullying. Type of victimisation did not predict SVQ scores.	No formal measures of ID (IQ estimated from responses given). Despite estimated majority of ID, the IDD group was varied. Respondents were given financial incentives to take part. Almost 30% did not have time to take part, which could result in sampling bias. CBCL not a relevant measure for adult population. No control group comparisons.

Jenaro et al. (2018)[a] Spain/Mexico/Chile Good (12)	Cross-sectional	Aims: (1) to analyse the frequency and characteristics of cyberbullying behaviours experienced by adults with ID attending educational facilities. (2) to determine the impact of these experiences in those who have been cyberbullied. (3) to analyse the associations between cyberbullying and important co-variates. Hypotheses: (1) prevalence of cyberbullying in adults with ID will be high. (2) lower psychosocial adjustment will be linked to cyberbullying.	Adults with ID attending educational facilities with training centres, where having ID diagnosis is a requirement for eligibility. 269 participants with ID (146 male, 123 female). Borderline ID = 20.4% Mild ID = 63.9% Moderate ID = 15.6% Aged 18-40 (M = 22.5; SD = 3.3)	Measure of ID: Attended educational facilities which require ID diagnosis. Measure of bullying: Adapted version of Campbell (2010) survey investigating bullying, cyberbullying, and its consequences. Measure of mental wellbeing: Beck Depression Inventory (BDI) – Spanish validation. Other measures: Internet Over-use Scale (IOS), Cell-Phone Over-use Scale (COS).	Approximately 15% of participants had been cyberbullied. Most of the cyberbullying (87%) consisted of offensive behaviours (e.g. threats, insults). Of those who were cyberbullied, 71% stated it negatively affected them, with 41% reporting they continue to experience anxious or depressive symptoms. Significantly higher BDI scores were found in participants who were cyberbullied, both past($d = 0.53$) and present ($d = 0.79$).	No statistical analyses for possible impact of co-variates on BDI score (e.g. smoking, drinking alcohol). Unclear which cut-off score was used to determine dichotomous variables on the BDI. No control group comparisons.
Yang et al. (2022a)[a] Taiwan Good (18)	Longitudinal design	Aim: to investigate the various types of peer victimisation (PV) experienced by adults with ID, and the influence of PV on the long-term mental health status of adults with ID who receive long-term care. Hypotheses: (1) different types of PV will be associated with adults with ID's psychiatric symptoms. (2) the PV experience will have a significant influence on mental health among adult users of ID services.	Adults with ID living in long-term care assisted services. 176 participants with ID (98 male, 78 female). Mild ID = 9 Moderate ID = 66 Severe ID = 64 Profound ID = 37 Aged 18-30 = 64 Aged 31-40 = 33 Aged 41-50 = 27 Aged ≥51 = 52	Measure of ID: Official ID certificates. Measure of bullying: Scale of Peer Victimisation Experience (adopted from the Chinese version of the School Bullying Experience Questionnaire). Measure of mental wellbeing: Psychopathology Inventory for Mentally Retarded Adults (PIMRA). Other measures: Completed Activities of Daily Living (ADL).	PV type and frequency were significantly associated with psychiatric symptoms as scored on the PIMRA. ID severity was not associated with psychiatric symptoms. The main symptoms were related to anxiety, adjustment, and somatoform disorders. After controlling for confounding variables, participants who experienced repeated PV were at higher risk for psychiatric symptoms. Physical (OR = 3.31; 1.13–9.70; $p < 0.05$) and verbal (OR = 8.36; 1.65–42.46; $p < 0.05$) victimisation were the main PV predictors.	Data was gathered for caregiver responses only. Did not provide PIMRA measures for each time point. No control group comparisons.

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[a] Studies which address research question one.

[b] Studies which address research question two.

Study characteristics

The studies were carried out in a range of countries. Two studies were conducted in the United Kingdom (Emerson, 2010; Hatton et al., 2018), two in the United States (Christensen et al., 2012; Fisher et al., 2012), two in Taiwan (Chiu et al., 2017; Yang et al., 2022a), one in Israel (Reiter & Lapidot-Lefler, 2007), and one recruited participants from three sites, in Spain, Mexico and Chile (Jenaro et al., 2018). The majority of the studies did not include a control group with whom to compare the outcomes of bullying and mental wellbeing. Thus, it was difficult to reach any conclusions about how the impact of bullying on people with intellectual disabilities compared with typically developing individuals or those from other disability groups. As stated previously, the outcome measures for bullying and mental wellbeing varied widely across the studies.

Narrative Synthesis

Measures of bullying

A variety of measures were used to investigate bullying and victimisation. These ranged from asking if bullying occurred or not (e.g. Emerson, 2010) to using more discrete measures which checked for type and frequency of bullying (e.g. Hatton et al., 2018). Additionally, the School Bullying Experience Questionnaire included items concerning abusive behaviour like unwanted sexual contact (Chiu et al., 2017). Further, Reiter and Lapidot-Lefler (2007) included items from the ‘Breaking the Silence’ questionnaire (Bryen, Carey, & Frantz, 2003). These questions concerned sexual harassment as well as theft of property. One study adapted a measure to focus on cyber bullying, thus narrowing the focus to this one context (Jenaro et al., 2018). The Harassment questionnaire used by Reiter and Lapidot-Lefler (2007) was the most extensively validated measure of bullying in the selected studies (Solberg & Olweus, 2003). When the authors tested the measure for reliability with a regular student population in Israel, they found that they achieved a moderate 77.7% inter-rater reliability (Reiter & Lapidot-Lefler, 2007). With regards timescales for bullying, three of the studies used the previous 12 months as a reference point for bullying that may have taken place (Chiu et al., 2017; Hatton et al., 2018; Yang et al., 2022a). One study used a combined approach to ask about bullying that occurred in the past and harassment that happened in the previous 12 months (Emerson, 2010). A further two studies asked if bullying had ever occurred (Fisher et al., 2012; Jenaro et al., 2018), one study asking if bullying happened in the last two months (Reiter & Lapidot-Lefler, 2007) and one study did not specify the time period (Christensen et al., 2012). Christensen et al. (2012) included both self and caregiver reports, while two studies only used caregiver reports of bullying (Fisher et al., 2012; Yang et al., 2022a). All other studies used self-reports.

There was no consensus in the literature about which measure of bullying represents a ‘gold standard’ for use in research. Nonetheless, several measures exist which provide detail and specificity on bullying, such as including type, frequency, duration, and severity (Reynolds, 2003; Solberg & Olweus, 2003). Despite this, three of the studies included in the review chose not to use such measures, instead opting to use coded responses from semi-structured interviews or novel and unvalidated measures. The lack of a consistent measurement, alongside the limited number of studies, makes it difficult to draw conclusions about which measure of bullying is optimal.

General mental health difficulties in children and young people

Three studies assessed mental health difficulties in children and young people in the context of bullying (Chiu et al., 2017; Christensen et al., 2012; Hatton et al., 2018). Two of these studies addressed the second research question (Table 3). There was some discrepancy between studies, as to whether bullying was associated with decreased mental health in this population. One study consisted of a secondary analysis of the ‘Next Steps’ survey which examined a cohort of children and adolescents (Hatton et al., 2018). Comparisons between typically developing children and adolescents and those with intellectual disabilities were made. Various types of bullying were explored with participants (e.g. verbal, physical, exclusion) and they used the General Health Questionnaire (GHQ-12) to assess mental health. They found that prevalence ratios (PR) predicting mental health problems for those experiencing social exclusion were significantly higher for males with intellectual disabilities aged 13/14 compared to their typically developing peers (PR = 7.40; 2.68–20.40; $p < 0.001$). Participants with intellectual disabilities were statistically more likely to come from more economically deprived backgrounds. When controlling for deprivation in further analyses, there were no significant differences between adolescents with and without intellectual disabilities in terms of their wellbeing generally. This indicates that despite bullying being more common in people with intellectual disability, a more important influence on poorer mental wellbeing in both groups is a higher level of deprivation. However, there are several aspects of the Hatton et al. (2018) study which ought to be considered when considering the strength of the findings. Firstly, they used the GHQ-12, which they acknowledged lacks supporting data concerning its validity for use with people who have an intellectual disability. Further, the authors recognised that the GHQ-12 measures emergent mental health problems, meaning that those who have recurrent difficulties will report lower scores. Finally, the highest rates of attrition in the study occurred in those with intellectual disabilities who reported emerging mental health problems. This means that the findings observed are likely to have suffered from attrition bias, which in turn could have reduced the validity of the results.

Chiu et al. (2017) measured psychological distress using a shortened version of the Symptom Checklist (SCL-7). Controlling for identified confounding variables using multivariate regression analyses, both social exclusion ($\beta = 1.00$; 95% CI, 0.37–1.64; $p < 0.01$) and verbal bullying ($\beta = 1.90$; 95% CI, 1.26–2.53; $p < 0.01$) were found to be associated with significantly increased scores of psychological distress in young people with intellectual disabilities. Adolescents also reported increased psychological distress when experiencing one or more types of bullying, ranging from one ($\beta = 1.45$; 95% CI, 0.72–2.18; $p < 0.01$) to four ($\beta = 3.03$; 95% CI, 1.70–4.37; $p < 0.01$).

The study by Christensen et al. (2012) suggested that according to self-report, adolescents with intellectual disabilities were more likely to be bullied compared to their typically developing peers ($\chi^2 = 4.72$; $p < 0.05$). However, this did not result in more frequent or severe bullying as assessed by the authors. When examining whether bullying was associated with various Child Behaviour Checklist narrowband scales, they found that there was no relation between bullying experience and reports of externalising behaviours (e.g. aggression, rule breaking) or internalising behaviours (e.g. anxious, depressed).

Social and emotional wellbeing difficulties in children and young people

Two studies examined possible social difficulties with regards social and emotional wellbeing in the context of being victimised in children and young people (Table 3). Reiter and Lapidot-Lefler (2007) asked teachers to rate students on their ability to make social adjustments. Victim status was found to be significantly correlated with having emotional problems ($r = 0.29$; $p < 0.01$), and problems with interpersonal relationships with other students ($r = 0.20$; $p < 0.05$). Reiter and Lapidot-Lefler (2007) also divided children into groups based on whether they were themselves a bully, a victim, or both (bully-victim). It is beyond the scope of this review to explore the effects of being a bully. However, it is important to note that bullies and bully-victims also experienced significant difficulties in social skills as well. The authors decided to include only the top 30% of scorers for each group, resulting in a sample reduction of 50.5%, with only 18.5% of those remaining being included in the victim status group. There was also no attempt to control for possible confounding variables and no specific measure reported for the intellectual disability status of participants. Therefore, the findings must be interpreted with caution.

Christensen et al. (2012) sought to investigate if there was a link between bullying and social skills deficits in adolescents with and without intellectual disabilities. The results indicated that social problems (t = 2.87; $p < 0.01$) and social withdrawal (t = 2.64; $p < 0.01$) on the Child Behaviour Checklist were related to victimisation in both groups. These domains were highly correlated ($r = 0.56$; $p < 0.001$). Later analyses indicated that there were no significant differences between groups on victimisation. Social problems, however, did significantly predict victimisation ($\beta = 0.14$; $W = 4.33$; $p < 0.05$). The authors concluded that social skills deficits, rather than disability status, predicted being bullied in both groups.

Global mental wellbeing in adulthood

One study examined the relationship between bullying and participants' global mental wellbeing (Table 3). Emerson (2010) completed a secondary data analysis of a large population survey of 'Adults with Learning Difficulties'. They found that scoring 'not happy' or 'sometimes not happy' was significantly associated with exposure to disablism (victimisation due to disability status; OR = 1.39; 1.05–1.83; $p < 0.01$) and bullying at school (past experiences; OR = 1.52; 1.15–2.01; $p < 0.01$). These associations still held after controlling for a range of confounding variables, participants' age, gender, area deprivation, level of support needs and employment status. Further statistical analyses were performed to examine whether material or social resources could moderate the effects between the two types of victimisation and wellbeing outcomes. They compared the 95% confidence limits of odds ratios and assessed if differences still persisted. They found a moderating effect on the association between perceived 'happiness' in adulthood and bullying at school, whereby participants who were more affluent and had higher social contact with friends were less affected by bullying. Similarly, the association between perceived 'happiness' and exposure to disablism were also moderated if participants had higher social contact with relatives and were more affluent. In addition to measuring happiness, Emerson (2010) also questioned participants about their experience of social exclusion. They found that feeling left out 'a lot' was significantly associated with both disablism (OR = 2.09; 1.38–3.17; $p < 0.001$) and school bullying (OR = 2.31; 1.46–3.64; $p < 0.001$). Once again, the strength of association between exposure to both types of victimisation and feeling left out 'a lot' significantly weakened when accounting for a higher frequency of social contact.

General mental health difficulties in adulthood

Three studies examined the association between mental health difficulties and bully victimisation, with each study reporting that bullying was linked to poorer mental health outcomes (Fisher et al., 2012; Jenaro et al., 2018; Yang et al., 2022a). Each of these studies addressed the first research question (Table 3). In Jenaro et al.'s (2018) study of cyberbullying, they found that 70% of participants with intellectual disabilities reported feeling sad or worried when bullied, with 41% saying they still felt upset about being bullied at present. They also found that people who had been cyberbullied in the past ($n = 41$) scored significantly higher on the Beck Depression Inventory ($M = 11.07$; $SD = 10.41$) than those who had not been cyberbullied ($M = 5.96$; $SD = 8.77$; $p < 0.01$), giving a medium effect size ($d = 0.53$). Similarly, those who were currently being cyberbullied ($n = 26$) scored significantly higher on the Beck Depression Inventory ($M = 13.58$; $SD = 10.27$) than those who were not being cyberbullied ($M = 6.00$; $SD = 8.80$; $p < 0.01$), giving a large effect size ($d = 0.79$).

Yang et al. (2022a) investigated victimisation experiences in people with intellectual disabilities who lived in long-term care services. They used logistic regression analysis and found that various experiences of peer victimisation were associated with a higher likelihood of experiencing mental health problems, particularly anxiety, adjustment, and somatoform disorders. Moreover, they found that there were statistically significant odds ratios indicating that physical ($OR = 3.31$; 1.13–9.70; $p < 0.05$) and verbal ($OR = 8.36$; 1.65–42.46; $p < 0.05$) bullying were significant risk factors for experiencing mental health difficulties. These significant effects accounted for variable confounding factors such as sex, age, severity of intellectual disability, secondary disability diagnosis, and type of intellectual disability service. However it should be noted that the measures utilised caregiver responses, meaning that experiences of victimisation are likely to have been under-represented.

Fisher et al. (2012) found that emotional bullying in adults with intellectual disabilities was significantly related to broad internalising ($r = 0.28$; $p < 0.001$) and externalising ($r = 0.34$; $p < 0.001$) factors, as well as total mental health problems ($r = 0.39$; $p < 0.001$) on the Child Behaviour Checklist. A limitation of the Fisher et al. (2012) study is the mental health measure selected. Given that their study included older adolescents and young adults with a mean age of 24.5, the Child Behaviour Checklist may not have been the most appropriate or sensitive measure for their sample.

Emerson's (2010) study also looked at ratings of sadness and helplessness. These results were consistent with those reported previously, with ratings of feeling sad 'a lot' being significantly associated with bullying at school (OR = 1.91; 1.24–2.93; $p < 0.01$) and feeling helpless 'a lot' with exposure to disablism (OR = 1.93; 1.25–2.98; $p < 0.01$) and bullying at school (OR = 2.20; 1.28–3.19; $p < 0.01$). These effects were only partly moderated by higher frequency of social contact.

Discussion

A tentative conclusion to draw from the results of this systematic review is that bullying does appear to be associated with the mental health and wellbeing of both children and adults with intellectual disabilities. To a greater or lesser extent, the studies in this review support the view that bullying is negatively related to mental wellbeing and is associated with a higher incidence of mental health and social skills difficulties. This is consistent with findings in the general population, for both children (Baier, Hong, Kliem, & Bergmann, 2019) and adults (Steele, Rodgers, & Fogarty, 2020).

The evidence in the adult population appears to be consistent, with each study indicating that common types of bullying such as verbal insults or social exclusion were negatively associated with measures of mental health or wellbeing. The evidence for children and young people appeared to be more mixed; one study (Christensen et al., 2012) did not find a link between bullying and internalising difficulties such as symptoms of anxiety or depression, whereas two others did find a relationship (Chiu et al., 2017; Hatton et al., 2018). It should also be noted that in Hatton et al. (2018), the findings indicated that socioeconomic status was an important variable associated with the occurrence of mental health difficulties. The reasons for these mixed findings are likely to be linked to methodological differences between the studies, in terms of design and the measures used for bullying and mental health/wellbeing. Moreover, the findings for the Christensen et al. (2012) study could have been subject to type II errors due to the alpha level being set very low and having a comparatively – to the rest of the studies – small sample size. The findings indicated that bullying was linked to social skills deficits in young people with and without intellectual disabilities. The Hatton et al. (2018) study also had notable limitations which were previously discussed, and these may have impacted the findings.

Importantly, the findings from this review appear to find less support for the second research question compared to the first. Both studies with typically developing control groups found there were no significant differences overall between groups, when examining the relationship between bullying and mental health outcomes (Christensen et al., 2012; Hatton et al., 2018). However, as only two studies examined group differences related to bullying and wellbeing, further methodologically robust research is required to examine whether bullying has a different impact on the mental health of people with intellectual disabilities, compared with their typically developing peers. Future research should use longitudinal designs to explore how bullying impacts mental health across time and at different developmental stages.

Methodological limitations and future research

Given the limitations of this review, it is important to emphasise that the findings ought to be interpreted with some caution. Only a small number of studies were eligible for inclusion. Many of the studies did not properly assess if participants had an intellectual disability, and the variety of measures might have contributed to differences in the results obtained. As stated above, many of the studies were also cross-sectional, meaning it was not possible to identify causal direction. Future studies would benefit from utilising well-established and validated measures of bullying (Reynolds, 2003; Solberg & Olweus, 2003), producing more reliable and replicable findings.

The studies in this review spanned the globe, which is also an important consideration. Results observed in different countries could be subject to cultural differences, such as differing support systems or reflect how disability is conceptualised or viewed. Thus, variation in findings internationally could reflect cultural factors.

Finally, this review did not include qualitative research. A previous systematic review investigating diverse effects of bullying and cyberbullying on children and young people with intellectual disabilities included qualitative studies, exploring how mental health and wellbeing was affected in this population (Martinez-Cao et al., 2021). More in-depth qualitative research could prove useful in uncovering more nuanced effects of bullying on the mental health/wellbeing of people with and without intellectual disabilities.

Clinical implications

Given the findings, it is important that services which are involved with people with intellectual disabilities across the lifespan recognise the potential adverse impacts of bullying. Clinicians involved in mental healthcare of people with an intellectual disability might consider asking whether bullying has taken place during assessment, and if so take account of these traumatic experiences in the therapeutic work that they do. Further, it seems appropriate that interventions targeting bullying across the lifespan should be prioritised for people with intellectual disabilities. In addition to work aimed at counteracting stigma and discrimination faced by people with intellectual disabilities, there have also been efforts to empower people with intellectual disabilities. A recent psychosocial intervention was developed to help people with intellectual disabilities to resist stigma and tackle bullying (Scior et al., 2022). Such interventions may reduce a sense of powerlessness and potential distress experienced by people with intellectual disabilities.

Conclusions

In summary, this review suggests that there is a relationship between being a victim of bullying and adverse wellbeing and mental health in people with intellectual disabilities. This association appears to hold even when accounting for other factors which could affect wellbeing and mental health. These effects can be seen across the lifespan, indicating that this may be a problem for people with intellectual disabilities at all stages of life. However, there remains a need for more sophisticated research examining the impact of different types of bullying on the wellbeing of people with intellectual disabilities, using more robust longitudinal designs and more reliable measures.

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Chapter 2: Major Research Project

Exploring how people with and without an intellectual disability respond to imagined bullying scenarios

Prepared in accordance with the author requirements for Journal of Applied Research in Intellectual Disabilities (JARID); Appendix 1.1

Plain English Summary

Background: It is known that people with intellectual disabilities can have problems with being bullied. Bullying can be very damaging to people’s wellbeing. There are lots of different ways people can react to being bullied. However, little is known about how people with intellectual disabilities deal with these kinds of upsetting situations. Finding out more about how people with intellectual disabilities deal with bullying might lead to ways of helping them cope better.

Aims: The main aim of this study was to find out what people with intellectual disabilities said they would do when they faced bullies, why they would take that particular course of action and what they thought would happen in the end.

Methods: Twenty two people with an intellectual disability and twenty without an intellectual disability took part in the study. They were recruited from further education colleges. Photo stories were shown to the participants, who were asked to imagine that they were the person in the stories being bullied. The different types of answers that participants gave were recorded.

Results: It was found that people with intellectual disabilities were more likely to say they would get help from someone else to deal with bullying, compared to people without intellectual disabilities. They were also more likely to want the situation to be sorted out and were more likely to think there would be a positive outcome. People without intellectual disabilities were more likely to say that they would not react to being bullied.

Conclusion: People with intellectual disabilities often get support from important people in their lives, so it makes sense that they would look to others to help deal with difficult situations such as bullying. People with intellectual disabilities should be encouraged to get support from others if they are being bullied.

Abstract

Background: Bullying is a common experience for people with intellectual disabilities, yet there is a paucity of literature examining how these individuals respond to bullying. This study aimed to build on the literature by exploring how people with intellectual disabilities respond to imagined bullying scenarios, as well as how their responses compare to a typically developing group.

Methods: Twenty two people with and twenty without intellectual disabilities were recruited from further education colleges. Participants were asked to imagine themselves facing different types of bullying in a series of pictorial vignettes. They were then asked open-ended questions about their emotions, how they would respond, why they would choose to behave that way, and what they expected would happen next. They were also asked closed questions about their appraisal of pre-defined outcomes to different ways of responding to bullying. Content analysis was used to code and categorise the participants' responses.

Results: People with intellectual disabilities were more likely to elicit support from others in situations where they were being bullied compared to those without an intellectual disability. They were also more likely to want to sort the situation out and to expect a positive short term outcome. Those without an intellectual disability were more likely to say that they would not react to the bully.

Conclusions: The findings are consistent with the literature that people with intellectual disabilities actively seek help from others in response to bullying. It is proposed that this behavioural strategy, alongside goals to resolve the situation and anticipated outcomes which are positive, is adaptive for people with intellectual disabilities. Interventions should consider the role of family and friends in supporting people with intellectual disabilities to tackle bullying.

Key words: intellectual disabilities, bullying, behaviour, goals, outcomes, content analysis

Introduction

It is unfortunately common for people with intellectual disabilities to be subjected to various forms of bullying compared to their typically developing peers (Christensen, Fraynt, Neece, & Baker, 2012). Bullying can be defined as an individual or group repeatedly exhibiting aggressive or hostile behaviour towards a vulnerable individual with the intention of causing distress and where the victim is unlikely to defend themselves (Olweus, Limber, & Breivik, 2019). People with intellectual disabilities have reported experiencing many types of bullying, including verbal, physical, cyber, and social exclusion (Maiano et al., 2016). Bullying is known to have several adverse effects on the mental health and wellbeing of both children and adults with intellectual disabilities (Emerson, 2010; Hatton, Emerson, Robertson, & Baines, 2018). Mepham (2010) found that most people with an intellectual disability in the United Kingdom experienced some form of bullying, with physical harm, verbal harassment, and social exclusion being among the most common.

One reason for individuals with intellectual disabilities experiencing higher rates of bullying is linked with their status as a stigmatised group, meaning that they face frequent prejudice and discrimination (Scior, 2016). Stigma can be understood as an individual or group being treated differently due to exhibiting a characteristic that carries a negative social evaluation (Goffman, 1963). This may include personal features which are unwanted or devalued by society (Link & Phelan, 2001). For people with intellectual disabilities, stigmatising experiences may result from public perceptions about a lack of perceived social and cognitive competence in this group. This may, in turn, result in bullies choosing to target this group for their perceived differences as well as to exploit possible vulnerabilities (Griffin, Fisher, Lane, & Morin, 2019a). Thus, while people with an intellectual disability may display individual characteristics that make them more vulnerable to victimisation, the high rates of bullying are likely to be explained by wider negative social attitudes (Maguire, Wilson, & Jahoda, 2019). People with a mild to moderate intellectual disability are aware of being treated differently due to their disability status, which could further impact on how they feel about themselves and the ways they respond to bullying (Sheehan & Ali, 2016).

Research focusing on how people with intellectual disabilities actually respond to being bullied is surprisingly sparse. Griffin, Fisher, Lane, & Morin (2019b) interviewed participants with intellectual and developmental disabilities about their experiences of being bullied and found one of the dominant themes which emerged from the data was the importance of others supporting them. Most participants reported bullying incidents to authority figures (e.g. teachers) and indicated the support they received could help them to cope. Further studies obtained similar findings, suggesting reliance on support from others is a favoured response to being harassed (Fisher, Lough, Griffin, & Lane, 2017; Leutar, Vitlov, & Leutar, 2014; Mepham, 2010). Griffin et al. (2019b) noted that some participants said they would also stand up for themselves directly. Fisher et al. (2017) noted similar findings, with some participants confronting bullies by expressing how they made them feel or by resolving the situation via people that supported them.

Some research indicates that individuals with intellectual disabilities tend to favour passive or avoidant responses in difficult social situations. Embregts and Van Nieuwenhuijzen (2009) used video vignettes with boys with mild intellectual disabilities, and found they generated more submissive responses in conflict situations compared to same aged autistic or typically developing peers. The boys with intellectual disabilities also tended to rate higher confidence in submissive responses and lower confidence in assertive responses, compared to both other groups. In the context of being bullied, it seems likely this would become more pronounced. Indeed, some evidence indicates people with an intellectual disability deem avoidance to be a useful strategy in situations where bullying may occur (Griffin et al., 2019b, Leutar et al., 2014). It is also likely that receiving repeated experiences of bullying could lead people with intellectual disabilities to feel disempowered (Paterson, McKenzie, & Lindsay, 2012). Such experiences may lead to feelings of shame and embarrassment (Logeswaran et al., 2019; Sheehan & Ali, 2016), emotions linked to a reduced sense of agency in social situations. In turn, if people with intellectual disabilities feel they have less agency, they may be more avoidant or passive when dealing with different types of bullying.

The social information-processing model (Crick & Dodge, 1994) demonstrates how individuals process social information and enact their responses. Originally developed to explain aggressive behaviour in children, studies have successfully adopted this model to examine how people with intellectual disabilities who have problems of aggression approach socially threatening situations (Kirk, Jahoda, & Pert, 2008; Pert & Jahoda, 2008). The model sets out six stages of processing social information: (1) encode, or represent in memory, social cues; (2) interpret the social cues; (3) clarify desired goals; (4) access potential responses; (5) evaluate and choose a response; and (6) enact the response.

By using the above model as a framework, we can examine not only individuals' behavioural responses when being bullied, but also the underlying goals for individuals' responses and the outcomes they expect. Pert and Jahoda (2008) presented participants with intellectual disabilities who were either aggressive or non-aggressive with storyboard vignettes where they would imagine themselves facing situations such as discrimination and exclusion. Participants were asked open-ended questions to elicit their goals and expected outcomes in these situations. This proved useful in helping to understand the cognitive processes that underlie aggressive behaviour. Applying this approach to situations where people with intellectual disabilities imagine being bullied may provide insight into how they respond to bullying and the nature of their perceived agency in these situations.

Pert and Jahoda (2008) also examined what participants thought about a range of different behaviours and outcomes. This method was used to explore the participants' views regarding the likely outcomes of different types of behaviours other than their own preferred behavioural response. Hence, participants were asked to contemplate behavioural responses that they might not have otherwise considered. In the context of bullying situations, this could also be used to gain an understanding of how people with intellectual disabilities evaluate the possible outcomes of different types of behavioural responses. Given the findings from previous studies (Griffin et al., 2019b), it would be useful to find out what they think about both active (doing something to change the situation) and passive (not responding) behaviours.

Bullying has also been found to be a common occurrence in the typically developing population (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014), particularly in the teenage years and young adulthood, with potential implications for their social development (Christensen et al., 2012; Mishna, 2003). Therefore comparing young people with intellectual disabilities' responses to imagined situations of bullying with their same-aged peers without disabilities might help to determine if and how their views of these situations differ.

The current study aimed to build on previous research by investigating how young adults with and without an intellectual disability respond to different types of bullying situations. A task which comprised vignettes featuring three distinct types of bullying (physical harm, verbal harassment, and social exclusion) was administered to participants with the aim of eliciting their predicted responses. As there are no known studies – to the authors knowledge – which have done this, the current study can be considered exploratory, and consisted of two parts. Firstly, the reported emotional and behavioural responses, underlying goals and expected outcomes of both groups to common types of bullying were explored. Secondly, participants' views on several possible pre-defined outcomes to both active and passive behavioural responses to a common bullying scenario were explored. Given previous findings on responses to bullying in people with intellectual disabilities, it was hypothesised that people with intellectual disabilities would be more likely to rely on others for support compared to typically developing young people. It was also hypothesised that people with intellectual disabilities would be more likely to act in avoidant or passive ways compared to typically developing young people.

Methods

Design

The present study utilised an experimental between-groups design to compare the predicted responses of participants with and without intellectual disabilities to common bullying situations. Content analysis was used to analyse the participants' responses to open-ended questions. Participants selected one of two possible response options when considering pre-defined outcomes for active and passive behavioural responses. Group comparisons of frequencies of responses were analysed for differences.

Participants

Twenty-two individuals with an intellectual disability and twenty without an intellectual disability took part in the study. Participants were recruited to the study from two Further Education colleges. Each participant met the following inclusion criteria: (i) were aged 17-30 years; (ii) were able to give informed consent; (iii) had sufficient receptive and expressive verbal ability to describe everyday events (as indicated by the Adaptive Behaviour Scale, ABS-RC: 2; Nihira, Leland, & Lambert, 1993). Exclusion criteria for the study consisted of the following: (i) having a severe visual or hearing impairment which would limit the person's ability to engage with the study; (ii) having a condition or set of difficulties which may prevent the person from engaging in the tasks (e.g. dementia).

Table 1 provides information on the characteristics of the study participants. Approximately two-thirds of the intellectual disability group were male, whereas two thirds of the typically developing group were female. Most of the participants were aged in their late teens and early twenties. The groups were similar in that they both lived in deprived areas of Scotland. As expected, participants in the intellectual disability group scored much lower on the WASI-II than those in the control group. Five participants from the intellectual disability group scored in the borderline range of cognitive functioning. Given that these participants had a lifetime in intellectual disability services, it was decided that they should be included in the sample of individuals with an intellectual disability. Unfortunately it was not possible to determine autism spectrum disorder status in participants as education staff could not provide this information. Five of the participants in the typically developing group were recruited from outside further education colleges.

Table 1: Participant characteristics

Characteristics		ID group	Non-ID group
Gender	Male	15	8
	Female	7	12
Age	Mean (SD)	19.0 (1.35)	21.3 (3.29)
	Range	17-22	17-28
Deprivation Score SIMD Quintiles	Mean (SD)	2.14 (1.49)	1.80 (0.83)
	Range	1-5	1-3
WASI-II scores	Mean (SD)	64.4 (9.03)	100.9 (8.72)
	Range	51-84	90-119

Measures

Background information

A questionnaire was used to obtain background information from the participants about their gender and age. Postcode information allowed a measure of level of deprivation status to be obtained using the Scottish Index of Multiple Deprivation (SIMD).

Bullying Vignettes Tasks

This task was adapted from the storyboard vignette approach used in previous studies to explore social cognitive and predicted behavioural responses of people with intellectual disabilities (Pert & Jahoda, 2008). The task consisted of ten vignettes (see Appendix 2.8 for a subset of vignettes used). The researcher developed the photos and stories used as vignettes. Time was taken to ensure the language was accessible, the stories were relevant, and that they reflected realistic experiences for both groups. The photos helped to ensure that the stories were engaging and accessible to people with intellectual disabilities. All forty two interviews were conducted by the researcher.

Part 1: Six experimental vignettes were used which featured two scenarios of three different types of bullying: social exclusion, verbal harassment, and physical harm. To prevent order effects, the presentation of vignettes was randomised so that half the participants received the vignettes in reverse order. Three positive vignettes were used, one each after the presentation of the second, fourth, and sixth experimental vignettes respectively. The purpose of the positive vignettes was to avoid participants becoming stuck in a negative response set, and as per previous studies these were not analysed (Kirk et al., 2008). Photos accompanied each vignette to aid communication and engagement in the task. Each vignette was read aloud by the researcher and participants were asked to imagine themselves as the protagonist in the situation. Once the story was complete participants were asked open-ended questions regarding how they felt, what they would do, why they would do it, and what they thought would happen next.

Part 2: An additional verbal harassment vignette was used. While the first task explored participants' imagined responses, this task aimed to find out what participants thought would be the outcome to different possible behaviours. Participants were read the vignette and were asked to imagine responding in four different ways to the same scenario. These behaviours were based on common reactions to bullying found in the literature and were titled as follows: active-self (telling the person to stop), active-other (getting help from a lecturer), passive-avoidant (feeling hurt but not responding) and passive-indifferent (not affected and not responding). They were then asked forced-choice questions about several pre-defined outcomes of behaving that way. They were first asked about their overall appraisal of the behaviour (helpful or not), and then asked to consider whether or not the behaviour would: (i) stop future bullying; (ii) gain peer approval; (iii) improve their self-esteem; (iv) avoid trouble.

Initially a pilot phase was planned, with the intention of gaining a sample of 2-3 participants with and without an intellectual disability to help finalise the task. Due to the fact that the first two participants appeared to respond well to the task and an established method was being used, it was decided that no further changes were required.

Wechsler Abbreviated Scale of Intelligence (WASI-II; Wechsler, 2011)

The WASI-II is an abbreviated version of the Wechsler Adult intelligence Scale (WAIS-III) and was completed after all other measures. It was used as a measure of cognitive ability for both groups. Correlations between the WASI-II and WAIS-III are acceptable (Vocabulary = 0.88; Matrix Reasoning = 0.66; Overall = 0.87). The two-subscale version (FSIQ-2) was chosen for the present study.

Procedure

Participants from both groups were recruited from Further Education colleges in the Glasgow area. The researcher contacted college staff to gauge interest in the research study. Staff then helped to arrange for the researcher to meet with student classes who had sufficient receptive and expressive language abilities to complete the tasks. Staff were provided with information to help select appropriate participants, which included assessing if participants met criteria on the following ABS-RC: 2 items: (i) talks to others about sports, family, group activities; (ii) sometimes uses complex sentences containing 'because', 'but'; (iii) answers simple questions such as 'What is your name?' or 'What are you doing?'. Participants were given written study information sheets and the researcher also repeated this verbally to classes, allowing opportunities for people to ask questions. Consent was obtained from participants who expressed an interest in taking part in the study. The tasks took an average of 45 minutes to complete with the participants. They were reminded of their right to withdraw at any time, and they were frequently asked if they required a break. All sessions were audio-recorded (consent for this was obtained) and participants' responses were also recorded using a response sheet (see Appendix 2.7). The researcher attempted to ensure that participants felt relaxed and comfortable before beginning, and the study was introduced as not having 'right' or 'wrong' answers and that the researcher wanted to know the participants' perspectives. All measures were administered in the order stated above. The WASI-II was administered last since this did contain 'right' and 'wrong' responses. The researcher ended by asking participants how they found the study and checked for any signs of distress. All participants engaged well in the task and stated that they found the study interesting to take part in.

Data analysis

Participants' responses were analysed using conventional content analysis (Hsieh & Shannon, 2005). This approach was chosen due to the limited literature available which may otherwise have indicated pre-set categories, and it was therefore decided that categories would be developed from the data itself, capturing the types of responses given by the participants. The researcher immersed themselves in the open-ended responses given by participants to each question. From examining each response, notes of initial impressions were made on each response, from which codes were created. If responses reflected more than one code, the dominant response was coded to provide a single code. These codes were then sorted into emerging categories, based on connections between codes (Hsieh & Shannon, 2005). These categories represented the types of responses given by the participants with and without intellectual disabilities.

The individual codes assigned to categories were assessed by supervisors to provide reliability checks. In order to provide a more robust measure of reliability, an independent rater blind to the purpose of the study reviewed the data for 15 participants (8 – ID group, 7 – non-ID group) and assigned responses (360 total) to the categories developed. Agreement between the researcher and the independent rater was measured using an intraclass correlation coefficient (ICC), based on an absolute agreement two-way random effects model. The ICC was statistic was 0.944 ($p < 0.001$), indicating excellent reliability. Disagreements between raters were resolved through discussion.

Participants' answers to forced-choice questions indicated whether they did or did not agree with each pre-defined outcome for several pre-determined behaviours; active-self, active-other, passive-avoidant, and passive-indifferent. The two categories for each pre-defined outcome were as follows: (i) overall helpful/overall unhelpful; (ii) stop future bullying/not stop future bullying; (iii) friends think good idea/friends think bad idea; (iv) feel good about self/feel bad about self; (v) stay out of trouble/not stay out of trouble.

Power analysis

Sample size was considered on the basis of previous studies which compared responses to vignettes by participants with and without intellectual disabilities (Kirk et al., 2008; Simpson, 2014). Additionally a power calculation to estimate sample size was calculated and indicated that for a power level of 0.80 at the 5% significance level the sample size required would be 42 (or 21 in each group).

Ethical approval

Ethical approval for the study was granted by the University of Glasgow Ethics Committee on 16th November 2022 (Appendix 2.3). An amendment was made to lower the age of eligibility for inclusion in the study from 18 to 17 years on 30th March 2023.

Results

The results will be organised into three sections. The first section will explain the coding framework and categories of participants' responses to each of the open-ended questions. The second section will present the data concerning the participants' open-ended responses to each type of bullying (social exclusion, verbal harassment, and physical harm). Findings concerning overall group differences will be examined in the context of the hypotheses. Finally, the third section reports on the findings from a further bullying scenario, where the participants are asked about the outcomes of behaving actively and passively.

Section 1: Development of categories

Table 2 shows the categories which were constructed after completing the content analysis process, with descriptions of each category and example quotes from each group given.

Table 2: Categories for each question asked with descriptions and examples

	Category description	**Example – ID group**	**Example – Non-ID group**
Categories for emotional responses			
Hurt	Includes feeling sad, upset, disappointed, embarrassed.	"Just uh…a wee bit down, a bit upset."	"I would just feel so depressed, I would feel invisible."
Angry	Includes feeling annoyed, frustrated, raging.	"I'd get angry on the inside…just makes me want to confront them."	"Oh you'd be fuming, you'd be ragin, quite angry."
Mixed	Includes a combination of equal negative feelings from hurt and angry category.	"I'd feel upset and angry."	"I'd feel hurt and confused and angry."
Scared	Includes feeling nervous, intimidated, threatened.	"Nervous…maybe a bit scared."	"I'd feel quite anxious if there's a group of them and I'm by myself. Nervous shaky hands, heart goin."
Neutral	Includes feeling not bothered, not caring, or unaffected.	"Nothing, I wouldn't really care, I don't know the person, and even if I did, I wouldn't care."	"If someone sent me that message, I think I'd find it more funny than being offended, would not bother me one bit."
Categories for behavioural responses			
Active (self)	An active response where the person directly advocates for themselves (e.g. standing up to others, making feelings known, clarifying others' actions).	"I would probably say like 'why would you just like put your foot out to like trip me up, that's not very like very nice to trip people up so they hurt themselves'."	"Eh I'd probably address them…so that would be more of a question kind of a deal of why and again just try to understand what the deal is."
Active (other)	An active response via a third party (e.g. talking to a friend, getting a lecturer to help).	"I would…maybe tell a teacher or something, like I'm kinda confused, ask them, have you spoke to like the names of the classmates, and if they've said anything about me."	"I would try to find out why they're not talking to me by like…asking like an adult, like have I done anything wrong to make them not talk to me."
Aggressive	A response where the person acts in a hostile manner (e.g. shouting back, hitting the person).	"I says…personally I would say 'you've got two seconds to walk out that door I says or I'll f****n leather ye in front of	"Probably punch them in the face. Yeah I know, not a good thing, but I'd probably do that."

		everybody'…that's my true response, you know.”	
Do nothing	A response where the person chooses not to act (e.g. not saying anything).	“I just think ignore them and just walk by…yeah.”	“Realistically I would probably just walk past them and forget about it.”
Other	Any other response (e.g. make a joke, laugh it off).	“Would probably giggle at them, if anything, like a wee giggle.”	“I'd probably actually like try and make a joke out of it, em so less that they've tripped me up but more that I fell for the joke, something like ‘oh you got me, it's not that bad, you tripped me up, great good on you'.”
Categories for underlying goals behind behavioural responses			
Sort it out	Any reason given which is aimed at resolving the situation (e.g. get answers, fix it, discuss the matter).	“Just to get an apology from them on ignoring me.”	“Just tae find oot if, like why they're dain it and…like if I was the problem if that makes sense.”
Avoid conflict	Any reason given where the person aims to avoid trouble (e.g. minimise impact, not draw attention to self, reduce hassle or escalation).	“Yeah I was just like thinking there to ignore so it doesn't keep on carrying on. Because then it wouldn't get into a big argument then.”	“Cos when you start to bite back that's when it gets worse. Especially if you start saying things back, then they're gonna start more. It'll just anger them.”
Show strength	Any reason given where the person aims to directly defend themselves, this might involve using their awareness of others when responding to the situation (e.g. save face, preserve sense of self, manage presentation, stand up for self).	“To show them, to show the person that I'm not like…not scared of them.”	“For me personally because I will stick up for myself, it's more I want the person who tripped me up and people sniggering to know that it's no gonna fly, it's no gonna happen. If you stand your ground one time, it's no gonna happen again.”
Other	Any other response (e.g. automatic reaction, no reason given).	“Because it's…it's the risk of that you know, you could have battered your head off the wall…also the fact it was more of a fright, more of a fright for you because you know it was unexpected.”	“Just out of anger and embarrassment, probably would be a first reaction type of thing.”
Categories for expected outcome responses			
Positive – short term	Any positive predicted outcome which indicates an immediate satisfactory outcome or an attempt at this (e.g. situation is resolved, bully gets into trouble, receive an apology, support from friends).	“Maybe try and make up for it, and maybe help with the party. That person would maybe say what happened and maybe that person who's asking that person what's wrong could maybe try to make it better.”	“I think we'd probably have a discussion about why I wasn't invited, try to find out from their perspective why I wasn't invited, and try to find a resolution.”

Positive – long term	Any positive predicted outcome which indicates the bullying behaviour will not escalate or continue in the future (e.g. moving on, accepting situation).	"They would probably just like stop…something like that."	"Um, I mean I'd like to think they'll just get on with their day, if they're just walking…if I just kept walking, I would assume that they would just stop after a while."
Negative	Any negative predicted outcome which indicates the situation gets worse or continues in the future (e.g. results in fight, continued name calling).	"I feel like they would just like say something nasty because they felt like doing it, just to laugh."	"Eh well you'd probably get hit with immature responses cos of the type of people you're dealing with."

Section 2: Responses to four questions in relation to three types of bullying scenarios

Table 3 shows the frequencies of responses of both groups to all the open-ended questions. This is further sub-divided into responses by type of bullying, as well as overall responses for each question. As the data obtained were counts, Poisson regression was used for analysis. No adjustments were made for multiple comparisons (Rothman, 1990).

Table 3: Frequencies of responses for each group by question asked and type of bullying

	Types of bullying							
	Social exclusion		**Verbal harassment**		**Physical harm**		**Overall**	
	ID	*Non ID*	*ID*	*Non ID*	*ID*	*Non ID*	*ID*	*Non ID*
Frequencies for emotional responses								
Hurt feelings	25	24	20	15	10	9	55	48
Angry	5	8	13	6	23	21	41	35
Mix (e.g. hurt, angry)	6	4	4	8	5	6	15	18
Scared	1	0	3	2	5	4	9	6
Neutral	7	4	4	9	1	0	12	13
Frequencies for behavioural responses								
Active (self)	17	13	14	16	16	19	47	48
Active (other)	13	4	10	3	16	4	39***	11***
Aggressive	0	0	3	2	5	7	8	9
Do nothing	10	23	15	18	5	8	30*	49*
Other	4	0	2	1	2	2	8	3
Frequencies for underlying goals for behavioural responses								
Sort it out	23	14	8	1	16	8	47**	23**
Avoid conflict	7	6	18	18	5	10	30	34
Show strength	7	13	13	15	16	16	36	44
Other	7	7	5	6	7	6	19	19
Frequencies for expected outcome responses								
Positive – short term	21	14	14	4	22	14	57**	32**
Positive – long term	11	16	14	16	4	3	29	35
Negative	12	10	16	20	18	23	46	53

* indicates significant difference at $p < 0.05$ level
** indicates significant difference at $p < 0.01$ level
*** indicates significant difference at $p < 0.001$ level

Emotional responses

Table 3 shows the data for emotional responses. Similar feelings were described by both groups for the different vignettes. The emotions most participants anticipated in relation to the different bullying vignettes were feeling hurt (including sad or embarrassed) and angry. Participants also said they would feel scared in some situations and neutral (not bothered) in others. Both groups of participants predicted feeling hurt in situations where they imagined being socially excluded or verbally harassed. In scenarios where physical harm occurred or was threatened, participants again reported similar emotions, with anger being the most common emotion in both groups.

Behavioural responses

Table 3 shows the data for behavioural responses. Across all scenarios, a similar proportion of participants with and without intellectual disabilities said they would deal with the situation actively by themselves. In terms of specific scenarios, doing nothing was the most common response for both groups when imagining being socially excluded and verbally harassed. However, those without an intellectual disability were more prone to saying that they would do nothing when imagining being socially excluded. When examining specific behaviours, participants with an intellectual disability were statistically more likely to say they would seek help from someone else ($p < 0.001$). This finding was consistent with the study hypothesis. Additionally, participants without an intellectual disability were statistically more likely to say they would do nothing ($p < 0.05$).

Underlying goals for behavioural responses

Table 3 shows the data for underlying goals. While both groups gave a range of goals for their proposed responses to being bullied, these differed depending on the scenario. The most common stated goal from both groups to being socially excluded was an attempt to resolve the situation. In verbal harassment scenarios, avoiding conflict and showing strength were the main stated goals underlying both groups' responses. Where physical harm occurred or was threatened, most participants from both groups said that the goal underlying their responses was to resolve the situation and to show strength. Participants with an intellectual disability were statistically more likely than those without a disability to want to resolve the situation ($p < 0.01$).

Expected outcome responses

Table 3 shows the data for the expected outcomes. Participants with an intellectual disability were statistically more likely to predict that the situation would quickly be resolved ($p < 0.01$).

Section 3: Evaluations of different outcomes of behaving actively and passively

Table 4 shows the frequencies of participants' evaluations of different types of outcomes of behaving actively and passively. As the data obtained were categorical, Fisher's Exact Tests were used for all analyses, and no adjustments were made for multiple comparisons (Rothman, 1990). Statistically significant effects were found whereby participants with an intellectual disability were more likely to think that getting help from others would stop future bullying ($p < 0.01$), gain peer approval ($p < 0.05$) and help them stay out of trouble ($p < 0.05$), compared to those without an intellectual disability.

Table 4: Frequencies of outcome evaluations for each group by active or passive behaviour

	Types of behavioural response							
	Active-self		**Active-other**		**Passive-avoidant**		**Passive-indifferent**	
	ID	*Non ID*	*ID*	*Non ID*	*ID*	*Non ID*	*ID*	*Non ID*
Overall appraisal								
Helpful	16	10	18	12	2	0	18	16
Unhelpful	6	10	4	8	20	20	4	4
Stop future bullying								
Yes	12	5	19**	9**	4	1	12	13
No	10	15	3**	11**	18	19	10	7
Gain peer approval								
Yes	17	16	19*	10*	3	1	14	14
No	5	4	3*	10*	19	19	8	6
Feel good								
Good	18	15	18	11	3	1	19	17
Bad	4	5	4	9	19	19	3	3
Stay out of trouble								
Yes	15	10	21*	14*	10	6	17	18
No	7	10	1*	6*	12	14	5	2

* indicates significant difference at $p < 0.05$ level
** indicates significant difference at $p < 0.01$ level

Discussion

This study contributes to our understanding of how young people with and without intellectual disabilities respond to imagined bullying scenarios by exploring the social cognitive processes that may guide their responses. Findings showed expected differences between the two groups in that participants with intellectual disabilities were more likely to rely on others for support. There were also some surprising differences regarding their underlying goals and expected outcomes. The social information processing model was a helpful framework to explore these differences.

It is not surprising that both groups of participants predicted negative feelings when imagining they were being bullied. In particular, they talked about feeling hurt and angry, which indicates the vignettes were relatable to real bullying incidents. It is also the case that in real life situations of bullying, people with intellectual disabilities report negative feelings. This can lead to problems with emotional difficulties in people with intellectual disabilities (Maiano et al., 2016; Mishna, 2003). Indeed Didden et al. (2009) noted a high positive correlation between depressive feelings and being a victim of cyberbullying in people with intellectual disabilities. The most common emotions anticipated by those without intellectual disabilities in the present study were similar to findings reported by

Byrne, Dooley, Fitzgerald and Dolphin (2016), who asked older adolescents without disabilities to define bullying.

With regards behavioural responses to bullying, significantly more participants with intellectual disabilities said they would elicit support from another person to address bullying compared to their typically developing peers. This was consistent with the study hypothesis. In previous studies exploring people with intellectual disabilities' responses to bullying, they commonly talked about getting help from significant others (Fisher et al., 2017; Griffin et al., 2019b; Leutar et al., 2014; Mepham, 2010). One explanation for this is that individuals with intellectual disabilities are more reliant than their typically developing peers for support with everyday challenges (Forte, Jahoda, & Dagnan, 2011; Salt, Melville, & Jahoda, 2019). Hence, they may use the same strategy to tackle difficult situations like bullying (Hartley & MacLean, 2008). Moreover, given their cognitive difficulties and marginalised social status, it could be a highly adaptive response for people with intellectual disabilities to garner support from others. Griffin et al. (2019b) concluded that sharing information about bullies with family and friends marks a form of self-determination that could increase people's resilience. However, they also noted that people with intellectual disabilities may not always be believed by those supporting them. Therefore, it is crucial that those who support people with intellectual disabilities take reports of bullying and discrimination seriously.

In line with previous findings, it had been hypothesised that people with intellectual disabilities were more likely to be avoidant or passive in response to being bullied (Griffin et al., 2019b, Leutar et al., 2014). However, in contrast to this hypothesis, it was found that the comparison group without intellectual disabilities were more likely to favour avoidant behavioural responses, particularly in situations where they were socially excluded. One possible explanation for this discrepancy lies in the different goals participants may have had. In the current study, it is worth noting that many people without an intellectual disability who said they would not respond to the bullying seemed to act as though they did not care and that the bullying did not bother them, so that the bully did not receive a satisfactory response. In keeping with this, showing strength was the most common goal in this group. This emphasises the need to consider the social cognitive processes leading to an individual's behaviour rather than viewing behaviour in isolation. Indeed, when this is taken into consideration, it highlights the possibility that the differences could be due to typically developing participants being more socially aware of the effect their behaviour had on others (Klubnik et al., 2014). In keeping with this, the findings from Christensen et al. (2012) indicate that individuals with intellectual disabilities are less likely to have developed equivalent social skills to their peers, and that deficits in this area may be an underlying factor in sensitivity to bullying.

In terms of the underlying goals for the behaviour, a group difference was found whereby participants with intellectual disabilities were more likely to seek to resolve or fix the situation. This was a novel finding in the study and not one that is reflected in the existing literature (Samson, Delgado, Louis, & Ojanen, 2022). A potential explanation for this finding could be linked to the differences in the social networks of those with and without intellectual disabilities. It is widely acknowledged that people with intellectual disabilities tend to have smaller social circles compared to their typically developing peers (Amado, Stancliffe, McCarron, & McCallion, 2013). For this reason, it may be that people with intellectual disabilities are more motivated to resolve situations of social conflict, as these social interactions could be viewed as having greater significance to them. It is also possible that people without intellectual disabilities – who may have more options in terms of friendships – could be less affected by social exclusion as they have other friends who can support them.

People with intellectual disabilities predicted more positive short term outcomes to the scenarios they were presented with, compared to their peers without intellectual disabilities. On one hand, this finding suggests that people with intellectual disabilities maintain a positive outlook despite facing adversity, and they may believe that their actions will help manage difficult situations (Fisher et al., 2017; Griffin et al., 2019b). However, another possibility is that individuals with intellectual disabilities may have been overoptimistic in their estimation of positive outcomes. Evidence indicates that people with intellectual disabilities can make overconfident predictions when it comes to task performance (Fajardo, Ávila, Delgado, Gómez-Merino, & Salmerón, 2022). Conversely, the typically developing group predicted more negative outcomes, perhaps reflecting their sense of what may realistically occur when dealing with bullies.

The findings regarding participants' evaluations of outcomes of active and passive behaviours showed that individuals with intellectual disabilities – compared to participants without intellectual disabilities – positively evaluate outcomes linked to eliciting support from others. Specifically, the findings suggest that those with intellectual disabilities were more likely to predict that seeking help from others to address bullying would be effective to stop future bullying, stay out of trouble and gain peer approval. This fits with the significant findings that people with intellectual disabilities more often want to resolve the situation and also expect more positive outcomes overall. The findings regarding peer approval may reflect the expectation of shared attitudes with friends regarding getting support from others. When considering outcomes of passive behaviours, people with intellectual disabilities did not view these differently from those without intellectual disabilities. It seems that both groups did not anticipate positive outcomes to passive behaviours when given an opportunity to contemplate whether this would be useful or not. Previous literature indicated that people with intellectual disabilities did positively appraise passive behaviours in difficult social situations (Embregts and Van Nieuwenhuijzen, 2009). However this was in a younger sample of people with intellectual disabilities, so the differences in views could reflect differences in age and therefore possibly the development of more mature views from participants in the present study.

Limitations

While this study has many merits, there are several limitations to consider. Despite efforts to reduce bias (e.g. reliability checks from an independent rater), it should be noted that experimenter bias could not be entirely eliminated. However, a positive aspect of the author's involvement throughout the process was that this may have allowed for a more profound and nuanced understanding of participants' responses.

The sample size was relatively small, and the study was exploratory in nature. While the numbers almost reached the level required by the power calculation, the groups were not evenly balanced in terms of gender, with more males participating in the intellectual disability group. It is possible that gender differences in the groups may have accounted for some of the statistical differences found between the groups, however it was not possible to analyse this. Moreover, it is likely that there were cases of self-selection bias among participants who volunteered to take part. The study utilised convenience sampling and the information was presented to groups of individuals who then chose to take part. It was noted that some individuals in classes wished to take part whilst others did not. It is possible that certain participants may have been more attracted to the study due to pre-existing interest in the content. This may have affected the external validity of the findings. Thus, the findings should be interpreted with caution.

It was noted that some participants found it difficult to select only one response for questions with a forced-choice option, stating that some of the decisions had positive and negative qualities. This reflects the nuanced nature of decision-making and clarification of goals in complex social situations (Crick & Dodge, 1994). There was also a lot of information which participants gave to add context to their decisions which could not be analysed because it did not fit the forced-choice format. Therefore, the meaning behind some of the chosen responses was missed.

Data on ethnicity was not collected in this study. Future studies should ensure that data on participant ethnicity is collected to promote the views of people from different backgrounds and cultural beliefs.

Lastly, no assessment was made of participants’ history of being bullied. Therefore, it was not possible to determine if there were differences across groups with regards a history of bullying or the impact this had. While some participants indicated they had been bullied, this was not formally recorded. It was decided that the term bullying would not be used in the study, to avoid unduly influencing participants and prompting reflection about real life incidents. Nonetheless, gathering background information on bullying may have helped understand the context for participants responses. Future studies should consider including questions about bullying (e.g. frequency, type, impact on participant), perhaps using an established formal measure of bullying (Solberg & Olweus, 2003). This would allow for further comparisons of the responses of participants, in relation to their history of bullying.

Future directions

Given that this study highlighted group differences in responses to bullying, the findings could help inform interventions which aim to confront bullying. Scior et al. (2022) developed a manualised group-based psychosocial intervention, providing education and strategies for people with intellectual disabilities on how to deal with being mistreated. Follow-up interviews were conducted with participants who attended, with themes which indicated participants were utilising active approaches to bullying, such as contacting appropriate authority figures to resolve situations. Other bullying interventions for people with intellectual disabilities have also advocated using a combination of teaching people to stand up for themselves and getting help from other people when facing bullying behaviour (Stannis, Crosland, Miltenberger, & Valbuena, 2019). Research on active bullying interventions for people with intellectual disabilities is currently sparse, and there is no clear consensus on whether people should be encouraged to directly manage the situation independently or if getting support from others should also be considered. Future research could explore the benefits of using both approaches to dealing with bullying.

Future studies could incorporate a measure of self-efficacy to see how this relates to particular types of responding to bullying. Lower self-efficacy scores have been found to be associated with higher rates of being bullied (Kokkinos & Kipritsi, 2012). This may also affect the types of behavioural responses participants select, for example if their self-efficacy is lower this could result in more avoidant patterns of behaviour (Sheehan & Ali, 2016). Self-efficacy could therefore be an important factor to consider when investigating individuals' responses to bullying.

Conclusions

This study demonstrated that there are differences in the responses of participants with and without intellectual disabilities to different types of bullying. However, preventing bullying is a broader societal issue (Maguire et al., 2019), and it is understandable that people with intellectual disabilities said they would seek help from others to deal with bullying. Better awareness and preparedness of those supporting individuals with intellectual disabilities may help to tackle bullying when it occurs and reduce its prevalence.

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Appendices

Appendix 1: Systematic Review

Appendix 1.1 – Journal Author Guidelines

Extract from author guidelines for the Journal of Applied Research in Intellectual Disabilities (JARID). Full guidelines available at: https://onlinelibrary.wiley.com/page/journal/14683148/homepage/forauthors.html#manuscript

4. PREPARING THE SUBMISSION

Use of Language

The language used to describe disability differs across countries, cultures and disciplinary fields, and continues to evolve. All manuscripts submitted to JARID must use language that promotes the value of all people as full members of our shared society. Pejorative language inclusive of euphemisms must not be used. For JARID this includes the use of older language that has been used to describe people with intellectual disabilities such as “retarded”, "special needs", "disease", “handicapped”, or “mentally handicapped”. Using any terms which are offensive, or patronising may lead to rejection of your submitted manuscript.

JARID recommends using person-first and/or identity-first language thoughtfully and appropriately. For example, the language used to describe both people with intellectual disabilities and autistic people has evolved based on recent advocacy efforts. When referring to people with autism, it is acceptable to use either identity-first language (e.g., “autistic people”) or person-first language (e.g., people with autism”), while identity-first language is not used to describe people with intellectual disabilities, where person-first language is preferred. Thus, people with intellectual disabilities should be referred to as people with intellectual disabilities.

We have consulted with over 40 self-advocates through Learning Disability England which included the North West Self-Advocacy Group, as well as Self-Advocacy Together and asked them what language we should use when writing about people with intellectual disabilities.

People with intellectual disabilities said that they do not like to be referred to by acronyms or abbreviations. Authors must therefore not use an abbreviation to describe intellectual disabilities such as “ID” or “LD”. Instead, use person-first language such as children, teenagers, adults, or people with intellectual disabilities, avoiding acronyms or abbreviations.

The terms “learning disabilities” and “learning difficulties”, though used in some countries to refer to people with intellectual disabilities, can cause confusion among readers. These terms are not used by the journal to refer to people with intellectual disabilities. Authors must only use the term “learning disabilities or difficulties” where this refers to a specific learning disability/disorder– such as a specific learning difficulty in reading, written expression or mathematics. **If “learning disabilities” or “learning difficulties” are used, authors must not use an abbreviation.**

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Journal of Applied Research in Intellectual Disabilities now offers Free Format submission for a simplified and streamlined submission process. Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files – whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, discussion, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision. Your manuscript may also be sent back to you for revision if the quality of English language is poor.
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- The title page of the manuscript, including:
    - Your co-author details, including affiliation and email address. (Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)
    - Statements relating to our ethics and integrity policies, which may include any of the following (Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication):
        - data availability statement
        - funding statement
        - conflict of interest disclosure

- ethics approval statement
- patient consent statement
- permission to reproduce material from other sources
- clinical trial registration

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Submissions via the new Research Exchange portal can be uploaded either as a single document (containing the main text, tables and figures), or with figures and tables provided as separate files. Should your manuscript reach revision stage, figures and tables must be provided as separate files. The main manuscript file can be submitted in Microsoft Word (.doc or .docx) or LaTex (.tex) formats.

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Cover Letters and Conflict of Interest statements may be provided as separate files, including in the manuscript, or provided as free text in the submission system. Please note, a cover letter is a submission requirement.

A statement of funding (inlcuding grant numbers, if applicable) should be inlcuded in the "Acknowledgements" section of your manuscript.

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The title page should contain:

i. A short informative title that contains the major key words. The title should not contain abbreviations (see Wiley's **best practice SEO tips**);

ii. A short running title of less than 50 characters;

iii. The full names of the authors;

iv. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;

v. Acknowledgments.

Authorship

On initial submission, the submitting author will be prompted to provide the email address and country for all contributing authors.

The Research Exchange submission system will extract listed affiliations from the manuscript and then ask the submitting author to verify each author's affiliation institution(s). Authors are encouraged to include the complete affiliation addresses in the manuscript (Institution Name, Country, Department Name, Institution City, and Post Code). When verifying their institution, authors will also be asked to locate their base institution only (not necessarily the department or school).

Please refer to the journal's authorship policy in the Editorial Policies and Ethical Considerations section for details on eligibility for author listing.

Acknowledgments

Contributions from anyone who does not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Conflict of Interest Statement

Authors will be asked to provide a conflict of interest statement during the submission process. For details on what to include in this section, see the section 'Conflict of Interest' in the Editorial Policies and Ethical Considerations section below. Submitting authors should ensure they liaise with all co-authors to confirm agreement with the final statement.

Main Text File

As papers are double-blind peer reviewed the main text file should not include any information that might identify the authors.

The main text file should be presented in the following order:

i. Title, abstract and key words;
ii. Main text;
iii. References;
iv. Tables (each table complete with title and footnotes);
v. Figure legends;
vi. Appendices (if relevant).

Figures and supporting/supplemental information should be supplied as separate files. For more information on prearing supporting/supplemental information, **click here**.

Abstract

All papers should have a structured abstract (maximum 150 words) as follows:

Background, Method, Results, and Conclusions. The abstract should provide an outline of the research questions, the design, essential findings and main conclusions of the study. We kindly request that authors place the abstract and title at the beginning of the main manuscript document.

Lay Summary

Please provide 3 or 4 bullet points summarizing the main finding of your work, the impact of it for people with intellectual disabilities and for the research community.

Keywords

Please provide up to six Keywords to aid indexing.

References

References should be prepared according to the *Publication Manual of the American Psychological Association* (6th edition). This means in text citations should follow the author-date method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). The complete reference list should appear alphabetically by name at the end of the paper.

A sample of the most common entries in reference lists appears below. For more information about APA referencing style, please refer to the **APA FAQ**. Note that for journal articles, issue numbers are not included unless each issue in the volume begins with page one, and a DOI should be provided for all references where available.

Journal article

Beers, S. R. , & De Bellis, M. D. (2002). Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. *The American Journal of Psychiatry*, *159*, 483–486. doi:10.1176/appi.ajp.159.3.483

Book

Bradley-Johnson, S. (1994). *Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school* (2nd ed.). Austin, TX: Pro-ed.

Internet Document

Norton, R. (2006, November 4). How to train a cat to operate a light switch [Video file]. Retrieved from **http://www.youtube.com/watch?v=Vja83KLQXZs**

Tables

Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be concise but comprehensive â€“ the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

Figure Legends

Legends should be concise but comprehensive – the figure and its legend must be understandable without reference to the text. Include definitions of any symbols used and define/explain all abbreviations and units of measurement.

Figures

Although authors are encouraged to send the highest-quality figures possible, for peer-review purposes, a wide variety of formats, sizes, and resolutions are accepted.

Click here for the basic figure requirements for figures submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

Additional Files

Appendices

Appendices will be published after the references. For submission they should be supplied as separate files but referred to in the text.

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The following points provide general advice on formatting and style.

- **Spacing:** Manuscripts should be double spaced with a wide margin.
- **Abbreviations:** In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Initially, use the word in full, followed by the abbreviation in parentheses. Thereafter use the abbreviation only.
- **Units of measurement:** Measurements should be given in SI or SI-derived units. Visit the Bureau International des Poids et Mesures (BIPM) website for more information about SI units.
- **Numbers:** numbers under 10 are spelt out, except for: measurements with a unit (8mmol/l); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).

- **Trade Names:** Chemical substances should be referred to by the generic name only. Trade names should not be used. Drugs should be referred to by their generic names. If proprietary drugs have been used in the study, refer to these by their generic name, mentioning the proprietary name and the name and location of the manufacturer in parentheses.

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A video abstract can be a quick way to make the message of your research accessible to a much larger audience. Wiley and its partner Research Square offer a service of professionally produced video abstracts, available to authors of articles accepted in this journal. You can learn more about it by **clicking here**. If you have any questions, please direct them to **videoabstracts@wiley.com**.

Appendix 1.2 – Quality Rating Tool

Quality criteria	Score	Description of categories
Study question	2	Clear focused aims and hypotheses
	1	Included only aims or only hypotheses
	0	Not clear
Study design	3	Longitudinal design
	2	Cross sectional design with control group
	1	Cross sectional design without control group
	0	Not clear
Sample characteristics	3	Age, gender, living circumstances, level of disability
	2	Contains three of the above
	1	Contains one or two of the above
	0	Does not include demographics
Measure of bullying	3	Multiple questions assessing several types of bullying
	2	Multiple questions assessing one type of bullying
	1	Asks whether bullying occurred (yes/no)
	0	Measure not appropriate to population or study design
Measure of mental wellbeing	3	Adapted intellectual disabilities measure
	2	Measure not adapted for intellectual disabilities
	1	Asks whether mental health issues present (yes/no)
	0	Measure not appropriate to population or study design
Measure of intellectual disability	3	Full assessment of intellectual and adaptive functioning
	2	Evidence indicating intellectual disability status
	1	External/third party sources given
	0	No information given
Control for confounding factors (e.g. level of social support)	2	Included co-variates to account for confounding factors
	1	Addresses possible confounding factors
	0	No consideration reported

Appendix 1.3 – Quality Rating Scores

Quality Rating Scores: Rater 1

Study	Study question	Study design	Sample features	Measure of bullying	Measure of mental wellbeing	Measure of ID	Control for confound factors	Quality rating & total score
Chiu et al. (2017)	1	1	3	3	2	2	2	Good (14)
Christensen et al. (2012)	1	2	3	2	3	3	2	Excellent (16)
Hatton et al. (2018)	1	3	2	3	2	2	2	Good (15)
Reiter & Lapidot-Lefler (2007)	2	1	1	3	2	0	0	Adequate (9)
Emerson (2010)	1	1	3	1	3	1	2	Adequate (12)
Fisher et al. (2012)	1	1	2	2	2	1	1	Adequate (10)
Jenaro et al. (2018)	2	1	3	2	2	2	1	Good (13)
Yang et al. (2022a)	2	3	3	3	3	2	2	Good (18)

Quality Rating Scores: Rater 2

Study	Study question	Study design	Sample features	Measure of bullying	Measure of mental wellbeing	Measure of ID	Control for confound factors	Quality rating & total score
Chiu et al. (2017)	1	1	3	3	2	2	2	Good (14)
Christensen et al. (2012)	1	2	3	2	2	3	2	Excellent (15)
Emerson (2010)	1	1	3	1	3	1	2	Adequate (12)
Jenaro et al. (2018)	2	1	2	2	2	2	1	Good (12)

Appendix 2: Major Research Project

Appendix 2.1 – STROBE Reporting Checklist

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	38
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	40
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	41-44
Objectives	3	State specific objectives, including any prespecified hypotheses	43-44
Methods			
Study design	4	Present key elements of study design early in the paper	44
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	46-47
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	44-45
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	N/A
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	45-46

Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	45-46
Bias	9	Describe any efforts to address potential sources of bias	56
Study size	10	Explain how the study size was arrived at	48
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	47-51
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	51
		(*b*) Describe any methods used to examine subgroups and interactions	51
		(*c*) Explain how missing data were addressed	N/A
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	44-45
		(*e*) Describe any sensitivity analyses	N/A

Results

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	44-45
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	N/A
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	44-45
		(b) Indicate number of participants with missing data for each variable of interest	N/A
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	N/A

Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	N/A
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	N/A
		Cross-sectional study—Report numbers of outcome events or summary measures	51
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	51-53
		(*b*) Report category boundaries when continuous variables were categorized	N/A
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	51-53
Discussion			
Key results	18	Summarise key results with reference to study objectives	53-56
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	56-57
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	53-56
Generalisability	21	Discuss the generalisability (external validity) of the study results	57-58
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	N/A

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

Appendix 2.2 – Final Approved MRP Proposal

https://osf.io/5dvs3/files/osfstorage

Appendix 2.3 – Ethical Approval Letter

16th November 2022

MVLS College Ethics Committee

Project Title: Exploring social cognitive responses to socially threatening situations in people with and without an intellectual disability

Project No: 200220030

Dear Prof Jahoda,

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project.

- Project end date: As stated in application.
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research:
- https://www.gla.ac.uk/media/media_490311_en.pdf
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.
- For projects requiring the use of an online questionnaire, the University has an Online Surveys account for research. To request access, see the University's application procedure at https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/.

Yours sincerely,

Jesse Dawson
MD, BSc (Hons), FRCP, FESO
Professor of Stroke Medicine
Consultant Physician
Clinical Lead Scottish Stroke Research Network / NRS Stroke Research Champion
Chair MVLS Research Ethics Committee

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Appendix 2.4 – Participant Information Sheet (easy read)

https://osf.io/5dvs3/files/osfstorage

Appendix 2.5 – Participant Information Sheet

https://osf.io/5dvs3/files/osfstorage

Appendix 2.6 – Consent Form

https://osf.io/5dvs3/files/osfstorage

Appendix 2.7 – Response Sheet Template

https://osf.io/5dvs3/files/osfstorage

Appendix 2.8 – Vignettes Sample

https://osf.io/5dvs3/files/osfstorage