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REVIEW

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How effective are interventions at enhancing empathy for service users with an intellectual disability who engage in sexually abusive behaviour? A review of the literature

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Abstract

Background: Sexual offending has been attributed to empathy deficits, implicating interventions targeting empathy as a potential mechanism for reducing sexually harmful behaviour. However, there is less known about how appropriate and effective interventions are for individuals with intellectual disabilities. This review aims to provide a comprehensive synthesis of research findings in this area.

Method: Four databases were searched, yielding 13 studies meeting the inclusion criteria which were appraised using the CCAT.

Results: CBT group treatments adapted from mainstream treatment programmes for people with intellectual disabilities were widely used, demonstrating improvements in empathy and reductions in sexually abusive behaviour overall.

Conclusions: Studies are limited by sample sizes, lack of control groups and inconsistent definitions of intellectual disabilities and sexually abusive behaviour. Future research should include evaluation of models other than CBT, further assessment of empathy-specific interventions and understanding of the mechanism underpinning empathy change.

KEYWORDS
cognitive behavioural therapy, empathy, harmful sexual behaviour, intellectual disability, sexual offenders, sexually abusive behaviour

1 | INTRODUCTION

Cognitive distortions and empathy deficits have been implicated in the onset of sexual offending (Lindsay, 2005; Sex Offender Treatment Services Collaboration-Intellectual Disability (SOTSEC-ID), 2010; Ward & Siegert, 2002). They are believed to be interrelated factors and perceived to enable the commission of sexually abusive behaviour (SAB) through a process of reducing inhibitions associated with the behaviour (Finkelhor, 1984; Hall & Hirschman, 1991; Hockley & Langdon, 2015; Jolliffe & Farrington, 2004; Marshall & Maric, 1996; Ralfs & Beail, 2012) especially against child victims (Becker et al., 1983; Marshall & Barbaree, 1990; Williams & Finkelhor, 1990). Empathy deficits are believed to enable sex offenders to justify their behaviour; eliminating feelings of guilt, shame or anxiety (Abel et al., 1989).

It has been suggested that empathy is the primary motivator for moral behaviour (Hoffman, 2000). It is a multidimensional construct requiring the ability to perceive, understand and feel the emotional states of others (Derntl & Regenbogen, 2014). General empathy is the ability to understand another's mental state, perspective (cognitive) and the affective response to another's experience and emotions (Blair, 2005; Grant et al., 2018; Rogers et al., 2007; Smith, 2006). Both

emotional and cognitive empathy are believed to be closely associated constructs being required to demonstrate empathetic responses (Baron-Cohen & Wheelwright, 2004; Blair, 2005; Rogers et al., 2007; Smith, 2006). Victim empathy focuses on offenders' empathy towards their own and other victims of crime (Brown et al., 2012).

Marshall et al. (1995) developed a four-stage model of empathy, comprising of emotion recognition, perspective-taking, emotion replication and response decision. It is suggested sex offenders may dissociate from a victims' distress due to deficits in empathy at any one of these four stages (Geer et al., 2000; Hanson & Scott, 1995; Hudson et al., 1993). As a result, sex offenders fail to understand the emotional state of their victims enabling them to continue to engage in SAB (Geer et al., 2000). However, research to date is inconclusive in terms of establishing whether or not sex offenders actually possess deficits in empathy, with implications for the posited relationship with offending behaviour. Some studies suggest that sex offenders possess deficits in empathy related to their own victims and victims of sexual crimes rather than exhibiting more general empathy deficits (Fernandez et al., 1999; Hockley & Langdon, 2015; Marshall et al., ,1993, 1995). In contrast, Hockley and Langdon (2015) found sex offenders demonstrated significantly less empathy per se than non-offenders, especially for their own victims. Despite this, the relationship between empathy and offending itself is unclear. For instance, Mann et al. (2010) found victim empathy to be unrelated to recidivism in people without intellectual disabilities.

Studies have further suggested individuals with intellectual disabilities have less empathy compared to people without intellectual disabilities (Bachara, 1976; Eyuboglu et al., 2018; Langdon et al., 2011). Again, the relationship between intellectual disabilities, empathy and sexual offending is complex with research producing inconsistent findings (Hammond & Beail, 2020). Offenders with intellectual disabilities (sexual and non-sexual) have been shown to have lower empathy than non-offenders with intellectual disabilities, offenders without intellectual disabilities and non-offenders (Bachara, 1976; Langdon et al., 2011). Other studies have found no difference in empathy scores demonstrated by sex offenders with intellectual disabilities and non-offenders with intellectual disabilities (Ralfs & Beail, 2012).

Despite mixed evidence for a relationship between empathy deficits and sexual offending, empathy remains a focus within practice (Marshall & Eccles, 1995; Mann & Marshall, 2012) risk assessments (e.g. AIM3 Assessment for adolescents, Leonard & Hackett, 2019; The Historical Clinical Risk Management-20 (HCR-20), Douglas et al., 2013; Offender Assessment System, HM Prison Probation Service, 2002; Assetplus, Youth Justice Board, 2014) and interventions for sex offenders (Sex Offender Treatment Programme (SOTP), Adapted SOTP (ASOTP), the Good Lives Model (Ward, 2002)). Improving empathy is considered a key aspect of recovery and rehabilitation (Abel et al., 1989; Craig & Hutchinson, 2005; Marshall, 1996) with Lindsay's (2009) programme including a perspective taking and victim empathy component.

Public Health England (Hatton et al., 2016) estimated 2.5% of the population have an intellectual disability. People with an intellectual disability appear to be over-represented in the criminal justice system when compared to numbers in the general population (e.g. Hayes, 2007). Prevalence of people with intellectual disabilities in prisons in the UK has been estimated to be between 1 and 3 per cent (Fazel et al., 2008; Hays et al., 2007). However, it has been questioned whether figures reported accurately reflect the prevalence of people with intellectual disabilities in the different parts of the criminal justice system, with differences reported between jurisdictions (Hayes, 2007), further subject to methodological issues affecting assessed rates of offenders with intellectual disabilities (e.g. screening measures used) (Murphy & Mason, 2014), meaning a clear picture of the numbers of offenders with intellectual disabilities is difficult to determine. People with intellectual disabilities may be more vulnerable to abuse and exploitation related to deficits including social development, cognitive abilities and emotional awareness (Hughes et al., 2012; National Research Council, 2001). Such characteristics may also increase risk of becoming perpetrators of offences, including SAB (Martinello, 2015).

SOTSEC-ID (2010) highlights a lack of research on the effectiveness of sex offender programmes at enhancing empathy in people with intellectual disabilities engaging in SAB. There is a need to establish the appropriateness and effectiveness of existing programmes for sex offenders with intellectual disabilities and to make recommendations for future developments in this area.

1.1 | Rationale for Review

Evidence is mixed in terms of the relationship between empathy deficits (general and victim) and sexual offending. However, in practice, enhancing empathy remains a focus for risk assessments and interventions. The efficacy of these interventions to improve empathy within populations displaying SAB with intellectual disabilities is unclear. Reviewing the effectiveness of enhancing empathy is critical for clinical practice and the development of effective treatment programmes.

1.2 | Aims

The aim of this review was to provide a comprehensive synthesis of research investigating empathy outcomes within interventions for individuals with an intellectual disability who engage in SAB.

Literature Review question: How effective are interventions at enhancing empathy for service users with an Intellectual Disability who engage in sexually abusive behaviour?

1.3 | Terminology

1.3.1 | Sexually abusive behaviour

For the purpose of this review, SAB is non-consensual sexual behaviour, either contact or non-contact in nature that would be viewed as a criminal act, including, sexual assault, rape, exposure, flashing, making, distributing or viewing indecent images of children and

TABLE 1 Search terms and Boolean operators.

Search terms				
"Learn* Disab*" OR "Intellect* Disab*" OR "Learning disorder" OR "develop* disab*" OR Autism OR Asperger OR ASD OR "Mental Retard*"	AND	Empathy OR "Perspective tak*" OR Apathy OR "Theory of mind" OR "Moral Reason*" OR Mentaliz*	AND	Forensic OR Crim* OR Offend* OR Prison* OR "Sex* Offen*" OR Pedophil* OR "Sex* Assault*" OR "sexually abusive beh*"

The search terms and Boolean operators utilised when completing the literature search on the databases.

revenge pornography. Harmful sexual behaviour is defined by the National Society for the Prevention of Cruelty to Children (NSPCC) as developmentally inappropriate sexual behaviour displayed by children and adolescents causing harm or abuse to another child or adult (Hackett, 2014). Developmentally inappropriate behaviour considers the individuals age, cognitive abilities and their needs.

For consistency, this review refers to SAB or sexual offending to encompass inappropriate sexualised behaviour displayed by adults and adolescents, as it is conceptualised within the UK.

1.3.2 | Empathy

Empathy as a construct varies in how it is conceptualised by theorists, including how it is operationalised and measured. This review has conceptualised empathy as a multidimensional construct requiring cognitive and affective abilities. Outcome measures focus on reporting either victim or general empathy. This review will reflect how empathy has been measured (victim or general) via self-report questionnaires (e.g. Interpersonal Reactivity Index, Davis, 1983; Victim Empathy Scale, Beckett & Fisher, 1994) and behavioural measures (e.g. Picture Viewing Paradigms, Westbury & Neumann, 2008; Kids Empathetic Development Scale, Reid et al., 2011).

2 | METHOD

2.1 | Scoping searches

Scoping searches were initially undertaken, using Google Scholar to envisage where gaps might lie in the field, and along with a search of the Cochrane database, to determine viability of the review (Booth et al., 2012), specifically to ensure no reviews had already been published on this topic.

Preliminary searches revealed reviews had been conducted investigating treatment change relating to therapeutic interventions with forensic populations with an intellectual disability (Jones & Chaplin, 2017; Marotta, 2015). These reviews examined a range of treatment outcomes. The present review provides more detailed consideration of empathy outcomes.

2.2 | Search strategy

Literature searches were conducted in May and July 2019 and updated in January 2021. Four databases were utilised for this review; EBSCOhost (a meta-search engine), Scopus, Cochrane and Ethos. Search results were screened by title and abstract.

The search terms (see Table 1) were grouped into three categories to capture people with intellectual disabilities, empathy and forensic populations.

Search terms were derived after the scoping exercise utilising words commonly used in published research and academic literature, through consultation with an academic supervisor and a thesaurus. In determining the search terms, consideration was given to the concept of cognitive and affective empathy (Derntl & Regenbogen, 2014). Perspective taking and theory of mind evidence cognitive empathy, while mentalisation displays affective abilities, with moral reasoning and empathy combining the two.

The Boolean operator 'OR' was used to combine search terms within all databases. 'AND' was utilised to combine levels of the search terms within EBSCOhost and Cochrane databases, SCOPUS provides the Boolean operator itself. Truncations were operationalised to enable multiple spellings and deviations of words and terms (*) and quotation marks were utilised around phrases to ensure the concept was searched as a whole.

The use of a second rater for searching was not utilised.

2.2.1 | Inclusion criteria:

- Participants with an intellectual disability.
- Participants had displayed SAB.
- Evaluating empathy outcomes within interventions.

2.2.2 | Exclusion criteria:

- Articles not in English.
- Non-empirical original research studies.

2.3 | Publication bias

ETHOS was searched for grey literature. One relevant thesis was identified after title and abstracts were read (Sinclair, 2011). The thesis comprised of a collection of unpublished studies conducted for the SOTSEC-ID programme which were later published in separate articles utilised within this review. Due to this, this thesis has been excluded from the review.

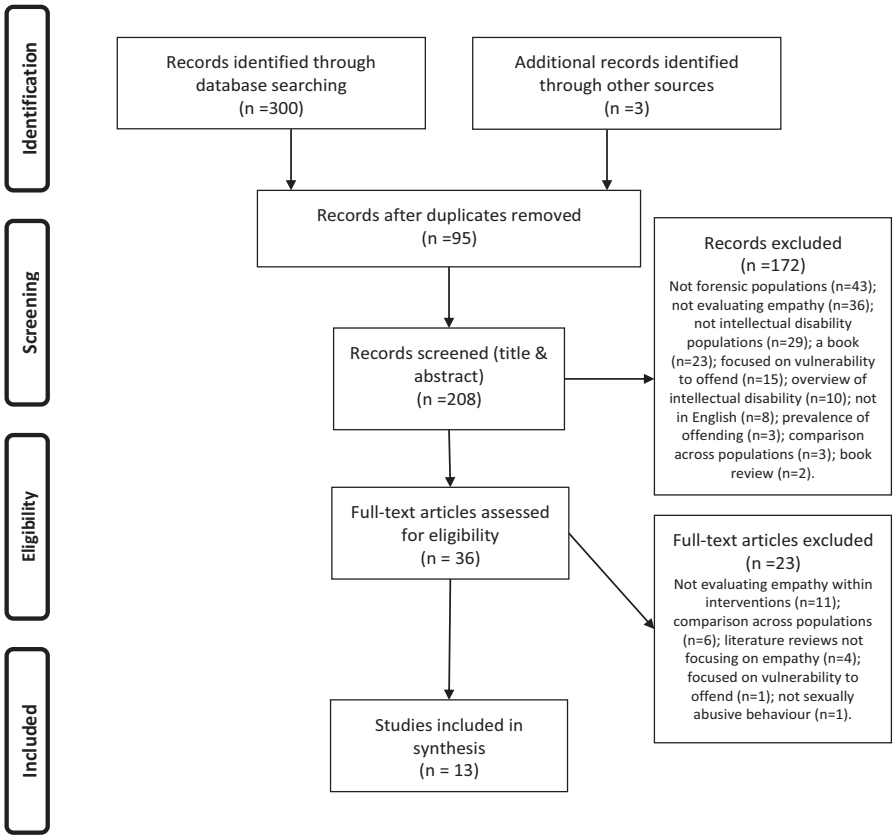

FIGURE 1 PRISMA flow chart of the search strategy. Breakdown of the records screened at each stage of the search process including the numbers of articles identified and screened at each stage. Details of the reason records that were excluded are included.

Non-English articles were excluded as the author was unable to translate the full text; however, the abstracts were read where in English and were found not to be relevant to this literature review.

2.4 | Overview of the search

The search results and selection process are detailed in Figure 1 (Moher et al., 2009). Initially, 303 records were identified by the databases and other sources. 95 duplicates were eliminated, leaving 208 articles to be retained and screened by title and abstract. 172 were excluded (see Figure 1). The remaining 36 articles were fully read resulting in 23 being excluded due to not meeting eligibility criteria, specifically due to the focus being on comparisons across populations (n = 6), vulnerability to offend (n = 1), not SAB (n = 1), or studies or literature reviews that did not evaluate or focus on empathy (n = 15). A total of 13 studies were retained, reviewed and critically appraised for this review. Ancestry and citation searches were undertaken on Google Scholar of the final 13 studies included in the review, with the aim of identifying further relevant studies. This did not yield any further relevant studies to be included in the review.

2.5 | Quality appraisal tool

Once articles were selected, a data extraction table was developed outlining the aims, participants, methods, analysis and findings (Table 2). The articles were critically appraised allowing for the process of critical evaluation of research to consider its value (Aveyard, 2014; Yardley, 2000; Young & Solomon, 2009). The Crowe Critical Appraisal Tool v1.4 (CCAT) was utilised to assess the quality of the papers included in this review due to its ability to critically appraise different research designs (Crowe, 2013; Crowe & Sheppard, 2011). The tool evaluates eight dimensions; preliminaries, introduction, design, sampling, data collection, ethical matters, results and discussion. Each dimension is assessed as to whether it is 'present', 'absent' or 'non-applicable' to support with overall scoring of the categories. Scores from 0 to 5 are allocated for each category yielding a total score out of 40 across the eight dimensions. Higher scores support greater overall quality of the article. A percentage can be determined from the overall score enabling a group of studies to be compared (Crowe, 2013). Using this appraisal tool ensured a thorough consistent review of the quality of the studies.

3 | RESULTS

3.1 | Overview of studies

Thirteen papers were included in this review. A summary of the papers is provided in the data extraction table (Table 2).

Five of the studies were an extension on other studies using the same participants with one being a follow-up study (Hays

et al., 2007; Heaton & Murphy, 2013; Keeling et al., 2006, 2007; SOTSEC-ID, 2010). Six studies related to the SOTSEC-ID group programme (Craig et al., 2012; Hays et al., 2007; Heaton & Murphy, 2013; Melvin et al., 2019; Murphy et al., 2007; SOTSEC-ID, 2010). Hays et al. (2007) gathered service user views on the SOTSEC-ID programmes and Heaton and Murphy (2013) completed a follow-up study with participants who engaged in the 2010 SOTSEC-ID study.

Five studies were conducted in the community, four in a prison or secure setting, three were mixed context (community and secure settings) and one study did not report on the setting. Ten studies were conducted within the United Kingdom, two were conducted in Australia and one in New Zealand. Eleven studies had exclusively male participants with two studies not reporting participant gender (Keeling et al., 2006, 2007). The mean age of participants ranged from 34.2 to 45.73 years, with the youngest participant being 17 years old (Rose et al., 2002).

The studies varied in their design.

3.2 | Critical appraisal

Table 3 provides an overview of the scores given for each article and each sub section of the CCAT.

All the papers were of a good standard, with CCAT scores ranging from 27 (68%) (Williams et al., 2007) to 37 (93%) (Heaton & Murphy, 2013). Williams et al. (2007) was the lowest ranking paper according to the CCAT. The main aim of Williams et al. (2007) study was to establish psychometric properties of six self-report measures. They were able to report good internal consistency on all the measures including the Adapted Victim Consequences task and the SOOT, further supporting their secondary aim to explore the sensitivity of these measures. Williams et al. (2007) scored poorly on three sections of the CCAT; Design, Sampling and Ethical Matters. They did not clarify or justify the design used for the study, however, did note social desirability as a limitation when using self-report measures as part of their design. Information provided on the sampling method was limited and the study omitted reporting on inclusion and exclusion criteria and ethical approval. The authors provided demographic information on participants and detailed all participants had taken part in a sex offender treatment programme within prison however, they did not report on how participants were recruited.

The highest rated paper was Heaton and Murphy (2013) scoring 37 (93%). The authors clearly outlined the rationale, design, sampling, data collection and results. This study was a follow-up to the SOTSEC-ID (2010) study. They provided details on ethics and consent however, omitted information regarding confidentiality and any conflicts of interest or biases having been involved in the SOTSEC-ID implementation and initial studies.

Reporting of ethical information was lacking in detail in several of the papers affecting the overall CCAT scores (Keeling et al., 2006; Michie & Lindsay, 2012; Newton et al., 2011; Rose et al., 2002; Williams et al., 2007). Five articles provided detailed ethical information (Craig et al., 2012; Keeling et al., 2007; Melvin et al., 2019; Murphy et al., 2007; SOTSEC-ID, 2010).

The research design and justification were not clear within four studies (Craig et al., 2012; Michie & Lindsay, 2012; Rose et al., 2002; Williams et al., 2007), impacting on the CCAT scores, with clarity of design and implementation of studies important for replication.

The studies reviewed were, in general, assessed to be of a good quality, all achieving scores of over 60%. The CCAT allows for professional judgement when critiquing studies allowing reviews of subject specific information. These studies provide practical details for clinicians and valuable knowledge into empathy outcomes post-treatment informing the evidence base for practice.

3.3 | Study aims

Michie and Lindsay (2012) was the only study to specifically evaluate the outcome of an empathy component within a treatment programme. They compared participants who had completed intervention with and without an empathy component. Williams et al. (2007) main aim was to evidence psychometric properties on six measures for sex offenders with intellectual disabilities, and their secondary aim was to assess sensitivity of these measures. The remaining studies evaluated overall outcomes of sex offender treatment programmes measuring empathy along with other components such as attitudes and sexual knowledge.

3.4 | Sample size

Sample sizes across most studies tended to be small with authors reporting this as a limitation. Sample sizes ranged from three participants (Sakdalan & Collier, 2012) to 211 (Williams et al., 2007). Where studies were less constrained by issues of sample size (e.g. Heaton & Murphy, 2013; SOTSEC-ID, 2010; Williams et al., 2007), they tended to be multi-site studies, enabling larger sample sizes to be achieved. Williams et al. (2007) also gathered data over a prolonged period of five years.

3.5 | Participants

The term intellectual disability is interchangeable with learning disability within the United Kingdom (UK). There is growing consensus that intellectual disability should be the preferred term to prevent confusion between learning disabilities and learning difficulties (BPS, 2015). The BPS (2015) state three criteria for a diagnosis of an intellectual disability; significant impairment in intellectual functioning determined by educational background and a Full Scale IQ (FSIQ) score of <70, significant impairments in adaptive behaviour,

TABLE 2 Data extraction table

Author, Year & Title	Country and Setting	Aims	Participants	Methodology
Rose et al. (2002) A group treatment for men with intellectual disabilities who sexually offend or abuse.	UK, Specialist community intellectual disability team, NHS Trust.	Evaluate group intervention for service users with intellectual disability who sexually offend or have allegedly sexually abused others.	*n* = 6 (1 dropped out and data were excluded). Males sexually offended or alleged, age range 17–43, Mild-moderate intellectual disability (WAIS-R range 54–71). *Recruitment*: Purposive sampling of those who had been referred to the service.	*Intervention*: 16-week therapeutic group, weekly 2-hour sessions. Therapeutic model for intervention not reported. *Data collection*: Structured interviews, Questionnaire on Attitudes Consistent with Sexual Offending (QACSO), Nowicki-Strickland Scale, Sexual Behaviour & The Law Scale, and Victim Empathy Scale (VES). Pre, post, 3- and 6–8-month follow-up.
Keeling et al. (2006) An investigation into the effectiveness of a custody-based cognitive-behavioural treatment for special needs sexual offenders	Australia, correctional facility.	Investigate the therapeutic outcomes of a custodial-based CBT programme for sexual offenders with special needs.	*n* = 18 (7 discharged during programme and data removed). Gender not specified. Sex offenders with special needs, mean age 35.22 years, Full-Scale IQ mean 71.78 (WAIS-III). *Recruitment*: Recruitment strategy not reported.	*Intervention*: 1-year adapted group sexual offending CBT programme, 2.5 hours per session four times a week. *Data Collection*: Loneliness Scale Revised (UCLA-R), Criminal Sentiments Scale, Miller Social Intimacy Scale, Modified Abel and Becker Cognition Scale, Victim Empathy Distortion Scale (QVES), QACSO, Self-Control Rating Scale (SCRS) and Paulhus Deception Scale. Pre- and post-treatment.
Hays et al. (2007) Group treatment for men with intellectual disability and sexually abusive behaviour: Service user views	UK, 2x groups in community, 1x in secure setting, multi-site (9 sites).	Ascertain the views of the SOTSEC-ID programme from participants.	*n* = 16 Males with intellectual disabilities displaying sexually abusive behaviour, mean age 36.5 years and mean IQ 66.0 (IQ range 51–83, WAIS-III) *Recruitment*: Community; participants telephoned and invited to take part. Secure setting; approached by facilitator and invited to be part of the research and interview.	*Intervention*: 1-year CBT group programme, 2 hours weekly. *Data Collection*: Semi-structured interviews approx. 30 minutes, 2 months after completion of group.
Keeling et al. (2007) Comparing sexual offender treatment efficacy: Mainstream sexual offenders and sexual offenders with special needs.	Australia, therapeutic unit within a correctional facility.	Compare treatment outcomes in victim empathy and socio-effective functioning between sex offenders with special needs and mainstream sex offenders. Additionally, to present follow-up sexually abusive behaviour data for sex offenders with special needs.	*n* = 22 Gender not specified. 11 sex offenders with special needs, mean age 37.82 years, Full-Scale IQ mean 71.0 (WAIS-III). 11 mainstream sexual offenders mean age 45.73 years. *Recruitment*: Purposive sampling. Mainstream sex offender group had completed treatment and were matched to the special needs' offenders on four variables.	*Intervention*: 1-year adapted sexual offending group CBT programme, 2 and a half hours per session four times a week. *Data collection*: QVES, Relationship Scales Questionnaire, Social Intimacy Scale, UCLA-R and Paulhus Deception Scale. Pre- and post-treatment. Follow-up for special needs group on sexually abusive behaviour.

Analysis	Findings	Limitations	CCAT Score (/40)
Paired sample *t* tests and descriptive analysis.	• One participants' empathy score increased, indicating decreased empathy. • The VES scores for all participants fluctuated. • No statistical significance for victim empathy from pre- to post-scores. *Other findings:* • No reported or suspected offending by any participants over a year • All participants found the group helpful	• Small sample size • One participant IQ score >70 • Ethical approval not reported • Descriptive results • One participant struggled with the questionnaire which may have affected the results • There are missing data affecting the validity of the results • Limited detail on structured interview data • No control group • No follow-up data on measures.	29
Chi-square analyses, Independent *t* tests, Paired sample *t* tests, Reliable Change Index (RCI).	• Chi-square analyses showed no significant differences pre-treatment scores between those who completed and those that did not complete the programme • Significant positive changes post-treatment for victim empathy. • Large effect size for QVES • 45% participants showed reliable change on the QVES. *Other findings:* • Significant positive behavioural change post-treatment.	• Small sample size • IQ mean >70 • Ethical approval not reported • Consent and confidentiality not reported • Limited details on sampling method and protocol • No control group • No follow-up data on measures • Limited detail on the victim empathy component of the intervention • Subject to social desirability bias (not reported by authors).	31
Descriptive account of responses, responses coded & converted to percentages.	• One participant mentioned victim empathy when asked what they learnt • No participant mentioned empathy when asked what they did while on the group*Other findings:* Majority of participants would engage in the group again.	• IQ range >70, no reporting of how many exceed IQ of 70 • Limited detail of the intervention, referenced to another article • Qualitative method and analysis may have yielded different results • Collection of data protocol limited • Group sizes not reported • No direct victim empathy question • No follow-up data • No control group	31
Independent samples *t* test, ANOVA, Repeated measure ANOVA, RCI.	• Overall significant treatment change in special needs group when social desirability covariate removed. • Significant differences pre- and post-treatment for the QVES ($F(1,5)=8.31$, $p<.05$). • QVES showed highest participant change compared with other measures using RCI. *Other findings:* • On follow-up, none of the sexual offenders with special needs had any further recorded sexual offences.	• Mean IQ >70 • Limited information on the intervention, directed to an earlier article • No facilitator details • Subject to social desirability bias (reported by authors)	36

(Continues)

TABLE 2 (Continued)

Author, Year & Title	Country and Setting	Aims	Participants	Methodology
Murphy et al. (2007) Cognitive-behavioural treatment for men with intellectual disabilities and sexually abusive behaviour: a pilot study	UK, South London Boroughs, community.	To describe a CBT programme for service users with intellectual disabilities who sexually abuse.	*n* = 8 (Two participants repeated 2nd group, 10 data sets). Males displaying sexually abusive behaviour engaging with community intellectual disability teams. Mean age for 10 data sets 37.7 years (excluding 2 who repeated, mean age 38.8), 8 participants full IQ mean 67 (range 52–83) (WAIS-III). *Recruitment*: Two south London Boroughs Community intellectual disability teams referred participants meeting criteria.	*Intervention*: 1-year sexual behaviour group CBT programme for males with intellectual disabilities, 2-hour session once per week. *Data collection*: Sexual Attitudes & Knowledge Scale (SAKS), QACSO, Sexual Offenders' Self-Appraisal Scale (SOSAS), adapted VES (VES-A). Pre and post, and follow-up on reoffending rates.
Williams et al. (2007) A psychometric study of six self-report measures for use with sexual offenders with cognitive and social functioning deficits	England and Wales, Prisons (8).	Establish the psychometric properties of 6 self-report measures. Explore the sensitivity of assessment measures to potential treatment change	*n* = 211 Male prisoners IQ <80, mean age 40.3, Full-scale IQ mean 71.9 (range 56–80, WAIS-R). *Recruitment*: Recruitment strategy not reported.	*Intervention*: Adapted Sexual Offender Treatment Programme (ASOTP)–89 treatment sessions averaging approx. 200 hours total. *Data Collection*: SOSAS, Sex Offenders' Opinion Test (SOOT), Adapted Victim Empathy Consequences Task, Adapted Relapse Prevention Interview, Adapted Self-Esteem Questionnaire, & adapted UCLA. Pre and 6-week post.
Sex Offender Treatment Service Collaborative – Intellectual Disabilities (SOTSEC-ID) (2010) Effectiveness of group cognitive-behavioural treatment for men with intellectual disabilities at risk of sexual offending	UK, Multi-site (9 sites), NHS trusts, one Probation service. Community and secure units	Provide a CBT group programme to males with intellectual disabilities who have engaged in sexually abusive behaviour and evaluate treatment change.	*n* = 46 Males engaged in sexually abusive behaviour. Mean age 35.3 years, Full-Scale IQ mean 68 (range 52–83, WAIS-III). *Recruitment*: Purposive sampling. Clinical teams identified participants meeting criteria.	*Intervention*: 1-year adapted group sexually abusive behaviour CBT programme, 2 hours once per week. *Data Collection*: SAKS, VES-A, SOSAS and QACSO. Pre, post and 6-month follow-up.
Newton et al. (2011) The development of a sex offender assessment and treatment service within a community learning disability team (The SHEALD Project): Part 2	South West England, Community Learning Disability team.	Description of a sex offender treatment programme for people with intellectual disabilities and outcomes of the treatment programme.	*n* = 13 (2 refused, 4 non-completers). Males displaying sexually abusive behaviour. Mean age 33.05, Mean IQ 62.9 *Recruitment*: Referred to SHEALD (sexual harm exhibited by adults with a learning disability) by clinicians.	*Intervention*: 1-year adapted CBT programme, 1st group weekly 4-hour group sessions, and 2nd group two 2-hours weekly sessions and every 4th session individual. *Data Collection*: VES-A, QACSO, Stable & Acute Dynamic Risk Tools. Pre, post and 12-month follow-up.

Analysis	Findings	Limitations	CCAT Score (/40)
Wilcoxon Z & descriptive analysis.	Victim empathy improved significantly (10 data sets $p < 0.02$, significant improvements when 2 repeated participants removed from group 2 $p < 0.05$) *Other findings:* • Significant improvements on several measures. • At 6-month follow-up, none had convictions for sexually abusive behaviour, three had engaged in sexually abusive behaviour	• Two participants IQ score >70 • Small sample size • Intervention was adapted but no detail as to how • No facilitator details • Biases and confounding variables not discussed • No follow-up on the measures • No control group	35
Repeated Measures ANOVA, Independent sample *t* tests	• Victim consequences task scores significantly increased pre- to post-group with large treatment effect. • Significant reduction in scores pre- to post-group on SOOT with a medium effect size • Victim empathy increased and distortions about victims decreased after treatment (SOOT). • Child molesters showed greater treatment change than rapists on the SOOT. *Other findings:* • All 6 measures were found to have reasonable psychometric properties • 5 of the measures are good indicators of treatment change (UCLA not sensitive to treatment change).	• Some participants IQ >70, criteria IQ <80 • Ethical approval not reported • Confidentiality not reported • Limited information on sampling method • Limited reporting of exclusion/inclusion criteria • Limited detail of intervention content • No facilitator details • Confounding variables not reported • Recruitment strategy not reported • No control group • No follow-up data • Large number of missing data	27
Repeated measures *t* tests for VESA, SOSAS and QACSO. SAKS analysed by Wilcoxon matched-pairs signed-ranks test	Significant change between pre- and post-treatment for victim empathy (increased empathy) and maintained at follow-up. *Other findings:* • None of the participants committed non-sexual offences during the programme • Three participants engaged in sexually abusive behaviour during the programme • Men on the Autistic Spectrum significantly more likely to reoffend (Fisher's exact test, $p = 0.02$), victim empathy scores were not significant in respect of reoffending.	• 15 participants had an IQ >70 • Data collection explanation referenced to another article • Limited reporting on data collection protocol • Biases and confounding variables not reported • No control group	35
Wilcoxon signed-ranks test and RCI	• Most participants VES-A increased after victim empathy block • VES-A score returned to baseline at follow-up *Other findings:* • No significant results • None displayed harmful sexual behaviour during treatment or follow-up	• Ethical approval not reported • Small sample size • Unsure whether consent gained • Biases and confounding variables not reported • Limited data collection protocol reported • Victim empathy block may have left participants feeling shameful (content being reviewed by authors) • No table of results presented • No control group	30

(Continues)

TABLE 2 (Continued)

Author, Year & Title	Country and Setting	Aims	Participants	Methodology
Craig et al. (2012) Treating sexual offenders with intellectual limitations in the community	UK, Community, Probation Services.	Evaluate a community-based programme for sex offenders with intellectual limitations.	*n* = 14 (2 dropped out). Male contact sex offenders on licence or probation order, mean age 35 years, mean Full-scale IQ 73 (WAIS-III) *Recruitment*: Recruitment strategy not reported.	*Treatment*: 14-month, 2- hour weekly sessions CBT group programme. *Data Collection*: SAK, QASCO, VES-A, SOSAS, Rapid Risk Assessment for Sex Offence Recidivism (RRASOR). Pre- and post-treatment on all measures and follow-up on reconviction rates.
Michie and Lindsay (2012) A treatment component designed to enhance empathy in sex offenders with an intellectual disability.	UK, setting not reported.	Evaluate an empathy component of a sex offender programme for offenders with intellectual disabilities.	*n* = 20 Treatment group - 10 male sex offenders, mild-moderate intellectual disability, mean age 36.4 years, mean IQ 65.8. Control group – 10 male sex offenders with intellectual disabilities attended CBT program but not empathy component, mean age 34.2 years, mean IQ 66.2. *Recruitment*: Recruitment strategy not recorded.	*Intervention*: CBT programme for sex offenders. The empathy component entailed 6 sessions over 8 weeks, 2 hours per session. *Data collection*: Interpersonal Reactivity Index (IRI). Treatment group- pre, post, 3-, 6- and 9-month follow-up. Control group- two data collections 3 weeks apart.
Sakdalan and Collier (2012) Piloting an evidence-based group treatment programme for high risk sex offenders with intellectual disability in the New Zealand setting	Auckland, New Zealand, Secure forensic.	Assess the viability of an adapted SOTSEC-ID programme with sex offenders with intellectual disabilities who pose high risk in secure units.	*n* = 3 Male sex offenders within a secure unit with intellectual disabilities. Age range 20–40, *n* = 1 mild intellectual disability, *n* = 1 mild-moderate intellectual disability, *n* = 1 no intellectual disability diagnosis. *Recruitment*: Recruitment strategy not reported.	*Intervention*: Adapted SOTSEC-ID with a DBT component (SAFE-ID), 7-months, 2-hour weekly group sessions and 1-hour individual weekly psychotherapy *Data Collection*: Sexual Violence Risk–20 (SVR–20, Assessment of Sexual Knowledge (ASK), Adapted Offender Self-Appraisal Scale (SOTSEC-ID), QACSO & VES-A. Pre, post and 12-month follow-up.
Heaton and Murphy (2013) Men with Intellectual Disabilities who have attended sex offender treatment groups: A follow-up	UK, Community, multi-site (7 sites).	Investigate treatment changes at 12-month follow-up and reoccurrence of sexually abusive behaviour.	*n* = 34 Males that had participated in the SOTSEC-ID study, mean length of time since end of treatment programme 44 months, mean age 44 years, Full scale IQ mean 65 (range 52–83, WAIS-III). *Recruitment*: Purposive sampling. Participants who took part in the SOTSEC-ID (2010) study.	*Intervention*: N/A as follow-up study. *Data Collection*: Previous study data and SAKS, QACSO, SOSAS and VES-A. Interview approx. 120 mins

Analysis	Findings	Limitations	CCAT Score (/40)
Paired *t* test, Wilcoxon (SAK only).	Significant difference between pre- and post-scores on VES-A $t = 3.491$, $p = 0.005$. *Other findings:* • No participant was reconvicted of sexual offences during the 12-month follow-up	• IQ mean >70 (only 5 participants met criteria for an intellectual disability) • Biases and confounding variables not reported • Research design limited detail • Limited sampling method detail • No control group • No follow-up on outcome measures. • Recruitment strategy not reported.	36
Treatment group – one-way ANOVA. Both groups repeated measures *t* tests.	• Significance between total empathy scores pre, post and 3-month follow-up $F(2,18)=16.871$, $p < 0.01$ for treatment group. • Personal distress domain of empathy no statistical significance • Overall increase in empathy for treatment group. • Significant difference between control group and post-treatment scores, post-treatment group scored significantly higher than control group.	• Ethical approval not reported • Consent and confidentiality not reported • No IQ ranges reported, only mean • Small sample for each variable • Limited detail on sampling method and protocol • Biases not reported • Research design not fully explained • No facilitator details • Intervention context limited • Intervention length short • No follow-up data for control group • Issues of reliability and validity of measure for people with intellectual disabilities.	31
Descriptive, no statistical analysis.	• Marked improvements for all in VES-A • Maintained treatment gains on follow-up*Other findings:* Reduction in incidents of sexually abusive/ inappropriate and other problematic behaviours	• Small sample size • 1 participant had no diagnosis for and intellectual disability • Biases and confounding variable not reported • DBT elements used within the programme, but no detail as to what DBT elements • Follow-up on SVR-20 only • No control group • Did not report on the psychotherapy sessions • No statistical analysis for significance.	35
Pre, post and follow-up (6-month follow-up removed) using Friedman tests. Significant findings analysed using Wilcoxon signed-ranks tests.	• VES-A indicated highly significant positive change between pre- to post-treatment ($z = -3.384$, $n = 32$, $p < 0.001$) and pre- to 12-month follow-up ($z = -3.275$, $n = 32$, $p < 0.001$). • Changes from post-treatment to follow-up were not significant ($p = 0.984$) on VES-A. • Victim empathy scores were maintained at follow-up with significant improvements during treatment. *Other findings:* • No instances of non-sexual offending during or at follow-up points. • 11 of the 34 (32%) engaged in sexually abusive behaviour from the start of the treatment programme. • 24% engaged in sexually abusive behaviour after completing the programme.	• Biases not reported • Research sites not reported • 3 participants IQ >70 • No control group • Interview completed with participants—no detail of interview information	37

(Continues)

TABLE 2 (Continued)

Author, Year & Title	Country and Setting	Aims	Participants	Methodology
Melvin et al. (2019) 'I feel that if I didn't come to it anymore, maybe I would go back to my old ways and I don't want that to happen': Adapted sex offender treatment programmes: Views of service users with autism spectrum disorders	England, Community, Probation Services, Secure Hospital.	Explore service users' view on how helpful treatment had been to reducing risk of reoffending. Explore whether features of autism are a vulnerability to engaging within programmes.	*n* = 13 Males convicted or displaying sexually abusive behaviour, mean age 38.3 years and FSIQ ranged 57–85 (mean IQ 71). *Recruitment*: Purposive sampling. Services identified participants meeting criteria.	*Intervention*: The study did not run the interventions. Participants had taken part in the SOTSEC (*n* = 1) and SOTSEC-ID (*n* = 9) programmes. It was unclear what programmes some participants had attended (*n* = 3). *Data Collection*: Semi-structured interviews, approx. 30 minutes.

Abbreviations: ASK, assessment of sexual knowledge; IRI, interpersonal reactivity index; QACSO, questionnaire on attitudes consistent with sexual offending; QVES, Victim Empathy Distortion Scale; RRASOR, rapid risk assessment for sex offence recidivism; SAKS, sexual attitudes and knowledge scale; SCRS, self-control rating scale; SOOT, sex offenders opinion test; SOSAS, sexual offenders self-appraisal scale; SOTSEC-ID, adapted sexual offenders self-appraisal scale; SVR-20, sexual violence risk-20; UCLA-R, UCLA loneliness scale revised; VES, victim empathy scale; VES-A, adapted victim empathy scale.

An overview of the 13 articles critically reviewed.

and impairments in both intellectual functioning and adaptive behaviour evidenced in childhood.

Keeling et al. (2006), Keeling et al. (2007) recruited participants with 'special needs' rather than people with intellectual disabilities. They acknowledged their sample represented higher functioning individuals than a group of people with intellectual disabilities. Williams et al. (2007) utilised the HM Prison criteria for an adapted sex offender treatment programme (ASOTP) which stipulates a FSIQ score <80, and they do not state how many of their participants had an IQ below 70. Melvin et al. (2019) recruited participants with Autism, some of whom had an FSIQ >70.

Whilst all studies acknowledged a diagnosis of an intellectual disability requires a FSIQ score <70, in reality the FSIQ mean scores in studies ranged from 62.9 to 73. Eleven studies included participants who had scored above the FSIQ cut-off. The remaining two studies reported means rather than ranges, therefore it is unclear whether participants exceeded an IQ score of 70 (Hays et al., 2007; Michie & Lindsay, 2012). Five studies had a higher proportion of participants meeting the threshold for an intellectual disability (Heaton & Murphy, 2013; Melvin et al., 2019; Newton et al., 2011; Rose et al., 2002; Sakdalan & Collier, 2012). The lowest FSIQ recorded within the studies was 51 within the mild intellectual disability range (Hays et al., 2007).

The SOTSEC-ID (2010) reported 91% of their sample had a formal diagnosis of an intellectual disability, with 18 participants having a FSIQ of 70 or above. All participants had had involvement with intellectual disability services. Half of Murphy et al. (2007) participants met criteria for an intellectual disability with all participants having a diagnosis of Autism. Seven studies reported Autism rates within their participant sample (Craig et al., 2012; Heaton & Murphy, 2013; Melvin et al., 2019; Murphy et al., 2007; Newton et al., 2011; Rose et al., 2002; SOTSEC-ID, 2010). Craig et al. (2012) reported 38% of their sample met Autism Spectrum Disorder diagnostic criteria noting this as a high percentage compared to the national average.

3.6 | Sexually abusive behaviour

There were variations in the definitions of SAB used for inclusion in the studies, ranging from alleged SAB to sexual offences. SAB was clearly defined as a non-consensual act which would be viewed as illegal under UK law within four studies (Hays et al., 2007; Heaton & Murphy, 2013; Murphy et al., 2007; SOTSEC-ID, 2010). The consistency in definitions used is likely associated with these studies being linked to the SOTSEC-ID. Six studies included those engaging in SAB and those who were sexual offenders (Hays et al., 2007; Heaton & Murphy, 2013; Melvin et al., 2019; Murphy et al., 2007; Newton et al., 2011; SOTSEC-ID, 2010). Six studies recruited participants with a recorded sexual offence (Craig et al., 2012; Keeling et al., 2006, 2007; Michie & Lindsay, 2012; Sakdalan & Collier, 2012; Williams et al., 2007). Rose et al. (2002) recruited participants with alleged sexual offending. This definition was unclear with the motivation of a participants' behaviour potentially not being sexual. Newton et al. (2011) did not report a clear definition.

3.7 | Interventions

All treatment programmes conducted in the studies were cognitive behavioural therapy (CBT) programmes for individuals with intellectual disabilities engaging or alleged to have engaged in SAB. Sakdalan and Collier (2012) incorporated dialectical behavioural therapy (DBT) alongside mainstream CBT. Nine of the studies utilised mainstream CBT programmes adapting these for people with intellectual disabilities engaging in SAB (Hays et al., 2007; Heaton & Murphy, 2013; Keeling et al., 2006, 2007; Murphy et al., 2007; Newton et al., 2011; Sakdalan & Collier, 2012; SOTSEC-ID, 2010; Williams et al., 2007). The SOTSEC-ID studies used a manualised programme (Craig et al., 2012; Hays et al., 2007; Heaton & Murphy, 2013; Murphy et al., 2007; SOTSEC-ID, 2010). Newton et al. (2011) based their SHEALD

Analysis	Findings	Limitations	CCAT Score (/40)
Grounded Theory, constructivist, interpretative model.	• Identity formed the overarching theme • Their sense of self was influenced by internal motivators, experience, relationships, social and cultural factors. • Positive experiences included social benefits, professional support and increasing social inclusion. • Immature levels of moral reasoning noticed. • Programmes provide positive outcomes. • Victims were not discussed within participants' narratives.	• 4 participants IQ >70 • Difficulties noted in attaining details of treatment • Sample did not include men currently in prison	36

programme on the SOTSEC-ID. Sakdalan and Collier (2012) modified the SOTSEC-ID manualised programme. Rose et al. (2002) did not report whether they adapted an existing programme or developed one. Participants in one study (Melvin et al., 2019) engaged in different treatment programmes, mainly the SOTSEC-ID. Information was lacking for three participants in terms of which programmes they had engaged in, attributed to issues of recall or poor case note recording.

Michie and Lindsay (2012) evaluated a victim empathy module to complement an existing CBT group for sex offenders with intellectual disabilities.

All studies evaluated group programmes with Newton et al. (2011) and Sakdalan and Collier (2012) offering individual therapy alongside the group treatment. Some participants in Melvin et al., and and's (2019) study also reported having engaged in individual therapy, but it was unclear if this took place at the same time, prior to or after their engagement in the group intervention.

3.7.1 | Facilitators

A third of the studies reported facilitator details supporting a co-facilitator model for group work, comprising of both male and female facilitators (Craig et al., 2012; Rose et al., 2002; Sakdalan & Collier, 2012; SOTSEC-ID, 2010). Craig et al. (2012) and Sakdalan and Collier (2012) reported facilitators professional roles.

3.7.2 | Duration

Seven studies reported the programmes to be 12 months in duration (Hays et al., 2007; Heaton & Murphy, 2013; Keeling et al., 2006, 2007; Murphy et al., 2007; Newton et al., 2011; SOTSEC-ID, 2010). Melvin et al. (2019) reported the majority of the programmes included in their study were 12 months in duration. Craig et al.'s (2012) programme ran for 14 months, and Williams et al. (2007) delivered 89 treatment sessions. Two studies delivered programmes of less than 12-month duration at 16 weeks and 7 months, respectively (Rose et al., 2002; Sakdalan & Collier, 2012). Two studies reported the duration of the empathy component being 8 weeks in duration (Michie & Lindsay, 2012; Newton et al., 2011). Michie and Lindsay (2012) did not report the overall duration of the programme focussing on the empathy component in their study.

Keeling et al. (2006, 2007) delivered sessions four days a week with the remaining studies offering weekly 2–2 ½ hour sessions.

3.7.3 | Content

Table 4 outlines the content included in each intervention delivered as part of the research. Newton et al. (2011) did not explicitly report the content of the programme outlining the programme had an empathy component and adhered to the Good Lives model. Due to the authors not explicitly detailing the content, they have been omitted from this discussion.

All studies covered an element of sex education and victim empathy including experiences of being a victim themselves. Cognitive distortions, general empathy, disclosure and relapse prevention appear to be dominant elements within the interventions, and Finkelhor's four stage model (Finkelhor, 1986) was typically covered. Concepts around consequences for sexual offending, old me–new me, cognitive model and goal setting were less typically covered.

3.8 | Ethical considerations

Eight studies reported ethical approval (Craig et al., 2012; Hays et al., 2007; Heaton & Murphy, 2013; Keeling et al., 2007; Melvin et al., 2019; Murphy et al., 2007; Sakdalan & Collier, 2012; SOTSEC-ID,

TABLE 3 CCAT table of results

Author & Year	Preliminaries	Introduction	Design	Sampling	Data collection	Ethical matters	Results	Discussion	Total (/40)	%
Rose et al. (2002)	4	5	2	3	5	1	5	4	29	73
Keeling et al. (2006)	5	5	4	3	4	0	5	5	31	78
Hays et al. (2007)	4	5	3	5	3	3	3	5	31	78
Keeling et al., 2007	5	5	4	4	4	5	4	5	36	90
Murphy et al., 2007	5	5	4	5	4	5	3	4	35	88
Williams et al. (2007)	4	5	3	2	4	0	4	5	27	68
SOTSEC-ID (2010)	5	5	4	5	3	4	5	4	35	88
Newton et al. (2011)	5	5	4	5	4	0	3	4	30	75
Craig et al. (2012)	5	5	4	4	4	5	4	5	36	90
Michie and Lindsay (2012)	5	5	5	3	4	0	4	5	31	78
Sakdalan and Collier (2012)	5	5	3	4	5	4	5	4	35	88
Heaton and Murphy (2013)	4	5	5	5	5	4	5	4	37	93
Melvin et al. (2019)	4	5	4	5	4	5	5	4	36	90

A breakdown of the Crowe Critical Appraisal Tool v.4 scores for each section including the total score out of 40 and the corresponding appraisal percentage given for each article.

2010) with the remaining studies omitting this information (Keeling et al., 2006; Michie & Lindsay, 2012; Newton et al., 2011; Rose et al., 2002; Williams et al., 2007). Rose et al. (2002) gained consent from participants however, omitted ethical approval information. There is no evidence within the remaining four studies whether participants were aware of their involvement within research (Keeling et al., 2006; Michie & Lindsay, 2012; Newton et al., 2011; Williams et al., 2007), and it is unclear within Williams et al. (2007) whether participants volunteered, or the programme was part of a Court Order. Some of the studies may have been service evaluations, overriding the need for ethical permissions. Newton et al. (2011) may not have required ethical approval being a clinical initiative, and this was not clarified.

3.9 | Control groups

Two studies collected control group data (Keeling et al., 2007; Michie & Lindsay, 2012). Michie and Lindsay (2012) compared data between participants who had completed an empathy component and those who had not. Keeling et al. (2007) compared sex offenders with intellectual disabilities and mainstream sex offenders completing similar treatment programmes. The programme was adapted for people with intellectual disabilities; however, both programmes had the same aims and content (Keeling et al., 2007).

The SOTSEC-ID (2010) proposed to gather control group data, unfortunately clinicians did not prioritise collecting data from the wait list group. Data were therefore minimal and unable to be included in statistical analysis (SOTSEC-ID, 2010).

3.10 | Outcome measures

The adapted victim empathy scale (VES-A) was commonly used (Craig et al., 2012; Heaton & Murphy, 2013; Murphy et al., 2007; Newton et al., 2011; SOTSEC-ID, 2010). This measure was adapted for people with intellectual disabilities and validated. The original VES was utilised within two studies (Rose et al., 2002; Sakdalan & Collier, 2012). This measure has not been validated for use with people with intellectual disabilities. Keeling et al. (2006, 2007) used the victim empathy distortion scale (QVES) and reported it to be a valid measure for this population. They further reported reliable change indicating reliability for their study. Williams et al. (2007) validated the victim consequence task (adaptation of the VES) and the sex offender opinion test (SOOT), finding adequate to very good internal consistency respectively. They further reported reliability of their data (Williams et al., 2007). Michie and Lindsay (2012) utilised the interpersonal reactivity index (IRI). This measure had a modest coefficient calculated at 0.71, and the authors noted limitations on the potential reliability and validity of the measure. None of the studies reported outcome measure norms.

Hays et al. (2007) and Melvin et al. (2019) conducted semi structured interviews gathering service user views. Hays et al. (2007) reported good inter-observer reliability.

Most studies did not report effect sizes. Exceptions were Keeling et al. (2006) who reported a large effect size for the QVES and Keeling et al. (2007) reported the QVES indicated reliable change for people with intellectual disabilities.

3.11 | Synthesis of the main findings

The results overall suggest CBT interventions were effective in improving levels of empathy in people with intellectual disabilities engaging in SAB (Craig et al., 2012; Heaton & Murphy, 2013; Keeling et al., 2006, 2007; Michie & Lindsay, 2012; Murphy et al., 2007; Sakdalan & Collier, 2012; SOTSEC-ID, 2010; Williams et al., 2007).

Two studies utilised comparison/control groups (Keeling et al., 2007; Michie & Lindsay, 2012). Keeling et al. (2007) found improvements in empathy in both groups after intervention (sex offenders and sex offenders with intellectual disabilities) with no difference noted between the groups, evidencing the efficacy of addressing empathy for both people with intellectual disabilities and mainstream sex offenders. Michie and Lindsay (2012) found participants who completed the empathy component showed improved empathy compared with those who had not completed this component with a significant difference at 3-month follow-up.

The studies further evidenced stabilisation and maintenance of empathy change at follow-up (Heaton & Murphy, 2013; Michie & Lindsay, 2012; Sakdalan & Collier, 2012; SOTSEC-ID, 2010). The SOTSEC-ID (2010) found some improvement pre-treatment to follow-up, with this being just short of significance. They suggested this was due to limited follow-up responses. Heaton and Murphy (2013) gathered follow-up data from the SOTSEC-ID participants, the mean duration from treatment end was 44-months. They found significant improvements across time from pre-treatment to follow-up. They noted no significant change between post-treatment and follow-up suggesting maintained improvement. Overall, studies consistently demonstrated that treatment gains had been maintained at follow-up.

Three studies failed to support the efficacy of interventions for improving empathy (Hays et al., 2007; Newton et al., 2011; Rose et al., 2002);however, these results should be interpreted with caution. Rose et al. (2002) found no statistical difference in VES scores pre- to post-group. This study was subject to missing data and a small sample size which may have affected the results. Newton et al. (2011) found one participant showed improvements in their empathy scores with five showing decreased empathy. The authors suggested participants may have experienced a sense of shame after the victim empathy component affecting the results. Hays et al. (2007) found one participant referred to victim empathy when asked what they had learnt (n = 16), but no direct question was asked around empathy which may account for this finding.

Melvin et al. (2019) were unable to comment on improvements in empathy reporting that narratives around victims were absent from participants accounts.

The studies evidencing efficacy for interventions to improve empathy usually ran for 12 months or more. The exceptions to this were Sakdalan and Collier (2012) delivering a 7-month programme and Michie and Lindsay (2012) who did not report the overall duration.

The context to the interventions varied slightly between studies (see Table 4). Interventions covered between 8 and 15 topics with all studies covering sex education and victim empathy. Rose et al. (2002) attempted to cover 13 components within 16 weeks; the short duration and attempt to cover many elements may have affected their results. Michie and Lindsay (2012) and Newton et al. (2011) delivered 8-week blocks for an empathy component. All the studies covered an element of empathy (general/victim); however, the breadth of this for all studies, bar Michie and Lindsay (2012), is unknown. This breadth may have impacted on the results.

Eight studies reported either a reduction in SAB or risk (Craig et al., 2012; Heaton & Murphy, 2013; Keeling et al., 2007; Murphy et al., 2007; Newton et al., 2011; Rose et al., 2002; Sakdalan & Collier, 2012; SOTSEC-ID, 2010). Three of the studies reported implicit positive changes and improvements within, general behaviours, insight, developing friendships, pro-social behaviours, emotional regulation and reduced intensity of risk management (Craig et al., 2012; Newton et al., 2011; Sakdalan & Collier, 2012).

4 | DISCUSSION

This review aimed to appraise and synthesise research on empathy outcomes within interventions for people with intellectual disabilities who had engaged in SAB. The appraisal demonstrated the varied quality of the research, but the review has also provided some valuable insights into the effectiveness of interventions in this area.

Improving victim empathy in sex offenders is a fundamental aspect of practice, despite mixed evidence supporting a relationship between empathy deficits and the development of SABs. The results overall indicate that interventions are effective in improving levels of empathy in individuals with an intellectual disability displaying SAB and that these gains are generally maintained at follow-up. Three studies failed to support the efficacy of interventions in terms of increasing empathy (Hays et al., 2007; Newton et al., 2011; Rose et al., 2002) but this finding may have been an artefact of poor sample sizes, missing data or the specified research aims/question. It has also been suggested that a focus on empathy may in some cases not generate the hoped-for-gains because of increases in shame in some offenders, having implications for how interventions are set up and delivered potentially.

Two thirds (n = 8) of the studies reported either a reduction in SAB or risk (Craig et al., 2012; Heaton & Murphy, 2013; Keeling et al., 2007; Murphy et al., 2007; Newton et al., 2011; Rose et al., 2002; Sakdalan & Collier, 2012; SOTSEC-ID, 2010). Studies further reported implicit positive behavioural changes and reduced recidivism (Craig et al., 2012; Newton et al., 2011; Sakdalan & Collier, 2012).

It was recommended by Sakdalan and Collier (2012) for individual therapy to be offered alongside group work to reinforce learning. However, Newton et al. (2011) offered one-to-one therapy but did not find evidence to support empathy improvements within their programme. However, they attributed this finding to participants experiencing elevated levels of shame in response to the victim empathy component. It may be that programmes need to balance victim empathy with compassion for offenders, who may themselves have been subject to sexually abusive experiences.

4.1 | Limitations of the studies

There were some methodological issues across the studies. This included variability in treatment programmes for individuals with intellectual disabilities engaging in SAB in terms of duration, facilitators,

TABLE 4 Content covered within the interventions

	Rose et al. (2002)	Keeling et al. (2006)	Hays et al. (2007)	Keeling et al. (2007)	Murphy et al. (2007)	Williams et al. (2007)
Social and Therapeutic Framework (1)	X	X	X	X	X	X
Old me–new me (2)	X	X		X		X
Sex education	X	X	X	X	X	X
Human Relationships		X	X	X	X	
Disclosure		X	X	X	X	X
Cognitive distortions		X	X	X	X	X
Cognitive model			X	X		
Sex Offender Model (Finkelhor)	X	X	X	X	X	
Emotional literacy	X	X		X	X	
General empathy	X	X		X	X	
Victim empathy (incl. experiences of being a victim)	X	X	X	X	X	X
Law and ethics (inc. consent)	X		X		X	
Consequences for sexual offending	X		X		X	
Risky situations and problem solving	X	X		X	X	X
Self-regulation (inc. sexual)	X	X	X	X		
Goal setting	X	X		X		
Relapse Prevention	X	X	X	X	X	X
Maintenance support post-treatment			X			

(1) This includes setting ground rules, the therapeutic framework (CBT), group social skills and development of a common language; (2) Old me–New me—derived from The Good Lives Model (Ward, 2002), a strength-based approach assisting offenders to adopt more fulfilling and socially integrated lives (new me).

Breakdown of the content covered within the studies intervention to provide visual comparison across the studies.

content and delivery. Detail on the content of the programmes varied across studies, and detail of the empathy components was lacking.

The studies employed slightly different definitions of SAB, to include convicted and/or non-convicted participants and intellectual disabilities including learning disability and special needs. These varying definitions can encompass different populations of participants. There was inconsistency in terms of meeting the BPS criteria for diagnosis of an intellectual disability especially in relation to the FSIQ. Craig et al. (2012) justified this as representing the true population of sexual offenders with intellectual disabilities, other studies stipulated participants had been involved with intellectual disabilities services at some point in their lives (Hays et al., 2007; Murphy et al., 2007; Newton et al., 2011; Sakdalan & Collier, 2012; SOTSEC-ID, 2010).

Overall, there is a need for more transparency of methods in studies and consistency in conceptualisations of SAB and intellectual disabilities to enable replicability and so findings can be meaningfully compared.

Further limitations include small sample sizes which appears to be a recurring limitation in studies researching this population. This is partially due to the limited population who are brought to services attention for engaging in SAB with many not being prosecuted by police or the Crown Prosecution Service due to their intellectual disability (Murphy et al., 2007; Rose et al., 2002).

All, but one study (Hays et al., 2007), employed self-report measures to evidence treatment change. These measures allow for statistical data analysis to evidence the effectiveness of treatment and are favoured in research. However, self-report measures are subject to social desirability bias affecting validity of results (Keeling et al., 2007).

Evaluating the study findings is difficult in the absence of control groups which would reduce the likelihood of confounding variables influencing the results. A lack of control groups is a common limitation within this area of research (Courtney & Rose, 2004) as they are difficult to employ due to small sample sizes. Having a control group not receiving sex offender treatment within community settings raises ethical and risk issues (SOTSEC-ID, 2010). Marques (1999) suggest all results contribute to knowledge regarding therapeutic outcomes and as such should be reported.

A further limitation to the studies reviewed was ethical information being omitted (Keeling et al., 2006; Michie & Lindsay, 2012; Newton et al., 2011; Rose et al., 2002; Williams et al., 2007). The lack of detail raises concerns of ethical viability of these studies. It has been suggested seeking service user consent heightens an already unequal power relationship and the damaging effect of sexual behaviour as well as people with intellectual disabilities cognitive impairments may

SOTSEC-ID (2010)	Newton et al. (2011)	Craig at al. (2012)	Michie and Lindsay (2012)	Sakdalan and Collier (2012)	Heaton and Murphy (2013)	Melvin et al. (2019)
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X		X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X		X	X	X
X	X	X		X	X	X
			X			
X	X	X	X	X	X	X
X	X	X		X	X	X
X	X	X		X	X	X
X	X	X		X	X	X
			X			
X	X	X	X	X	X	X
X	X	X		X	X	X

justify intervention in the absence of consent (Brown & Thompson, 1997). However, not gaining consent raises ethical dilemmas.

4.2 | Strengths and limitations of the review

There are both strengths and limitations to this review. The Crowe Critical Appraisal Tool v1.4 (CCAT) was used to review all the studies allowing for parsimony and consistency. This has enabled ease of reporting and interpreting of the scores. The CCAT does not provide the user with a cut-off range for what is considered a good or poor quality article. Crowe (2013) outlines this omission being deliberate as the appraisal score should not be the only criterion to determine the quality of a paper but used to assist. This brings about limitations as well as strengths to using the tool.

A quality control sift was not completed which would have enhanced replicability and rigour. For instance, second rating of article selection or quality appraisal scores to determine inter-rater agreement was not undertaken, which is a limitation of this review.

All the interventions adopted a CBT model. Studies reporting participants' gender had recruited exclusively male participants. It is recognised that more research is needed on female sexual offenders. Interventions suitable for men may not be appropriate for female offenders or could even be ineffective (e.g. Comartin et al., 2018).

4.3 | Clinical implications

It has been suggested the style of delivery of programmes is vital for people with intellectual disabilities. Coleman and Haavan (2001) suggest facilitators' knowledge and ability to adapt is important in group work with people with intellectual disabilities suggesting a didactic lecture style can hamper learning. Five of the studies recommended flexibility within the programme to allow for clinical need in relation to time spent on the topics (Craig et al., 2012; Hays et al., 2007; Keeling et al., 2006, 2007; Murphy et al., 2007). Coupled with this, there is growing support for co-facilitation of group work involving facilitators of different genders within sex offender programmes. This allows for modelling of behaviours and differing perspectives to be acknowledged. Co-facilitating also allows for management of risk and vulnerabilities within groups. A third of the studies supported a co-facilitator model (Craig et al., 2012; Rose et al., 2002; Sakdalan & Collier, 2012; SOTSEC-ID, 2010). The SOTSEC-ID (2010) promoted multidisciplinary facilitation.

Most of the programmes were 12 months or more in duration which was perceived to be beneficial for people with intellectual disabilities to allow for repetition of information and consolidation of learning (Craig et al., 2012; Keeling et al., 2006, 2007; Murphy et al., 2007; Sakdalan & Collier, 2012).

Consideration could be given to the availability of individual therapy sessions alongside group involvement (Sakdalan & Collier, 2012). It is suggested individual sessions can reinforce the learning from group work and support people with intellectual disabilities in understanding the information and relating it to personal experiences in a safe therapeutic environment.

It may be important for interventions to include modules not usually covered within mainstream programmes, such as, sex education.

4.4 | Research implications

A robust understanding of the relationship between people with intellectual disability displaying SAB and empathy would ensure empathy interventions used are more evidence-based in terms of where deficits (if they do) lie in this offender population. There is support for the development of a specific manualised programme for sex offenders with intellectual disabilities (Craig et al., 2012; Sakdalan & Collier, 2012), promoting consistency and evidence for the effectiveness of a programme (Hays et al., 2007; Heaton & Murphy, 2013; SOTSEC-ID, 2010). Examining empathy interventions specifically versus them being an 'add-on' as part of a broader intervention, as well as improving understanding of the mechanism underpinning empathy change would develop a more robust understanding and evidence-base for improving empathy in people with intellectual disabilities displaying SAB. Unique findings from studies reviewed here, for example, why men on the autism spectrum are more likely to reoffend independent of empathy ratings (SOTSEC-ID, 2010) and how shame responses can be moderated in victim empathy interventions to potentially improve their effectiveness would be useful to explore further.

Research with this population tends to attract small sample sizes, where possible larger sample sizes would reinforce the findings and allow for robust statistical analysis to be conducted. The use of control groups or randomised control trials could support this and would be beneficial in further understanding this relationship and solidifying the findings.

The application of CBT interventions dominated this review. Future research could consider the efficacy of alternative therapeutic models for enhancing empathy, such as, narrative (Ayland & West, 2006) and 'third wave' approaches, such as DBT (Sakdalan & Collier, 2012). Such research would benefit expanding the knowledge base, clinical practice and evidence-based interventions. The studies reviewed were group administrations. Many clinicians may be providing individual interventions which are not included in this evidence base. Single case studies would add to the evidence base.

The studies reviewed suggested limitations with the outcome measures adopted, such as, there not being a universal adapted empathy measure to allow for consistency and gathering of comparable data with the operationalisation of empathy varying across measures. Further research into the utility and reliability of adapted empathy measures for people with intellectual disabilities is warranted.

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REFERENCES

Abel, G. G., Gore, D. K., Holland, C. L., Camp, N., Becker, J. V., & Rathner, J. (1989). The measurement of the cognitive distortions of child molesters. *Annals of Sex Research*, *2*(2), 135–152. https://doi.org/10.1177/107906328900200202.

Aveyard, H. (2014). *Doing a literature review in health and social care: A practical guide*, 3rd ed. Open University Press.

Ayland, L., & West, B. (2006). The good way model: A strengths-based approach for working with young people, especially those with intellectual disabilities who have sexually abusive behaviour. *Journal of Sexual Aggression*, *12*(2), 189–201. https://doi.org/10.1080/13552600600841680.

Bachara, G. H. (1976). Empathy in learning disabled children. *Perceptual and Motor Skills*, *43*, 541–542. https://doi.org/10.2466/pms.1976.43.2.541.

Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: An investigation of adults with Asperger Syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Developmental Disorders*, *34*(2), 163–175. https://doi.org/10.1023/b:jadd.0000022607.19833.00.

Becker, J. V., Skinner, L. J., & Abel, C. G. (1983). Sequelae of sexual assault: The survivor's perspective. In J. G. Greer, & I. R. Stuart (Eds.), *The sexual aggressor: Current perspectives on treatment* (pp. 240–266). Van Nostrand Reinhold.

Beckett, R., & Fisher, D. (1994). Victim empathy measure. In R. Beckett, A. Beech, D. Fisher, & A. S. Fordham (Eds.), *Community based treatments for sex offenders: An evaluation of seven treatment programmes* (pp. 136–140). Home Office.

Blair, R. J. R. (2005). Responding to the emotions of others: Dissociating forms of empathy through the study of typical and psychiatrics populations. *Consciousness and Cognition*, *14*(4), 698–718. https://doi.org/10.1016/j.concog.2005.06.004.

Booth, A., Papaioannou, D., & Sutton, A. (2012). *Systematic approaches to a successful literature review*. Sage.

British Psychological Society (BPS) (2015). *Guidance on the assessment and diagnosis of intellectual disabilities in adulthood*. BPS.

Brown, H., & Thompson, D. (1997). The ethics of research with men who have learning disabilities and abusive sexual behaviour: A minefield in a vacuum. *Disability & Society*, *12*(5), 695–708.

Brown, S., Harkins, L., & Beech, A. R. (2012). General and victim-specific empathy: Associations with actuarial risk, treatment outcome, and sexual recidivism. *Sexual Abuse: A Journal of Research and Treatment*, *24*(5), 411–430. https://doi.org/10.1177/1079063211423944.

Coleman, E., & Haaven, J. (2001). Treatment of the intellectually disabled sex offender. In D. R. Laws, S. M. Hudson, & T. Wards (Eds.), *Remaking relapse prevention with sex offenders: A sourcebook* (pp. 27–38). Sage.

Comartin, E. B., Burgess-Proctor, A., & Kubiak, S. (2018). Comparing women and men's sexual offending using a state-wide incarcerated sample: a two-study design. *Journal of Interpersonal Violence*, 1–24. https://doi.org/10.1177/0886260518772110.

Courtney, J., & Rose, J. (2004). The effectiveness of treatment for male sex offenders with learning disabilities: a review of the literature. *Journal of Sexual Aggression*, *10*, 215–236. https://doi.org/10.1080/13552600412331286558.

Craig, L. A., & Hutchinson, R. (2005). Sexual offenders with learning disabilities: risk, recidivism and treatment. *Journal of Sexual Aggression*, *11*(3), 289–304. https://doi.org/10.1080/13552600500273919.

Craig, L. A., Stringer, I., & Sanders, C. E. (2012). Treating sexual offenders with intellectual limitations in the community. *The British Journal of Forensic Practice*, *14*(1), 5–20. https://doi.org/10.1108/14636641211204423.

Crowe, M. (2013). *Crowe critical appraisal tool (CCAT) user guide v1.4*. Retrieved from https://conchra.com.au/wp-content/uploads/2015/12/CCAT-user-guide-v1.4.pdf

Crowe, M., & Sheppard, L. (2011). A general critical appraisal tool: An evaluation of construct validity. *Journal of Nursing Studies*, *48*, 1505–1516. https://doi.org/10.1016/j.ijnurstu.2011.06.004.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44*(1), 113–126. https://doi.org/10.1037/0022-3514.44.1.113.

Derntl, B., & Regenbogen, C. (2014). Empathy. In P. H. Lysaker, G. Dimaggio, & M. Brüne (Eds.), *Social cognition and metacognition in Schizophrenia: Psychopathy and treatment approaches* (pp. 69–81). Elsevier.

Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *The historical clinical risk management – 20, version 3*. Mental Health, Law and Policy Institute.

Eyuboglu, D., Bolat, N., & Eyuboglu, M. (2018). Empathy and theory of mind abilities of children with specific learning disorder (SLD). *Psychiatry and Clinical Psychopharmacology*, *28*(2), 136–141. https://doi.org/10.1080/24750573.2017.1387407.

Fazel, S., Khosla, V., Doll, H., & Geddes, J. (2008). The prevalence of mental disorders among the homeless in western countries: systematic review and meta-regression analysis. *PLoS Medicine*, *5*(12), 1670–1681. https://doi.org/10.1371/journal.pmed.0050225.

Fernandez, Y. M., Marshall, W. L., Lightbody, S., & O'Sullivan, C. (1999). The child molester empathy measure: Description and examination of its reliability and validity. *Sexual Abuse: A Journal of Research and Treatment*, *11*(1), 17–31. https://doi.org/10.1177/107906329901100103.

Finkelhor, D. (1984). *Child abuse: New theory and research*. Free Press.

Finkelhor, D. (1986). *A sourcebook on child sexual abuse*. Sage Publications.

Geer, J. H., Estupinan, L. A., & Manguno-Mire, G. M. (2000). Empathy, social skills, and other relevant cognitive processes in rapists and child molesters. *Aggression & Violent Behavior*, *5*(1), 99–126. https://doi.org/10.1016/s1359-1789(98)00011-1.

Grant, T., Furlano, R., Hall, L., & Kelley, E. (2018). Criminal responsibility in Autism Spectrum Disorder: A critical review examining empathy and moral reasoning. *Canadian Psychology*, *59*(1), 65–75. https://doi.org/10.1037/cap0000124.

Hackett, S. (2014). *Children and young people with harmful sexual behaviours*. Research in Practice.

Hall, G. C. N., & Hirschman, R. (1991). Towards a theory of sexual aggression: A quadripartite model. *Journal of Consulting and Clinical Psychology*, *59*(5), 662–669. https://doi.org/10.1037/0022-006X.59.5.662.

Hammond, S., & Beail, N. (2020). The relationship between cognitive variables and offending behaviour in adults with intellectual disabilities: A systematic review. *Journal of Applied Research in Intellectual Disabilities*, *33*, 779–792. https://doi.org/10.1111/jar.12738.

Hanson, R. K., & Scott, H. (1995). Assessing perspective-taking among sexual offenders, nonsexual criminal and nonoffenders. *Sexual Abuse: A Journal of Research and Treatment*, *7*, 259–277. https://doi.org/10.1177/107906329500700403.

Hatton, C., Glover, G., Emerson, E., & Brown, I. (2016). *Learning disabilities observatory: People with learning disabilities in England 2015: Main report*. Public Health England.

Hayes, S. (2007). Missing out: offenders with learning disabilities and the criminal justice system. *British Journal of Learning Disabilities*, *35*, 146–153. https://doi.org/10.1111/j.1468-3156.2007.00465.x.

Hays, S. J., Murphy, G. H., Langdon, P. E., Rose, D., & Reed, T. (2007). Group treatment for men with intellectual disability and sexually abusive behaviour: Service user views. *Journal of Intellectual & Developmental Disability*, *32*(2), 106–116. https://doi.org/10.1080/13668250701413715.

Heaton, K. M., & Murphy, G. H. (2013). Men with intellectual disabilities who have attended sex offender treatment groups: A follow-up. *Journal of Applied Research in Intellectual Disabilities*, *26*, 489–500. https://doi.org/10.1111/jar.12038.

Her Majesty's Prison and Probation Service (HM Prison & Probation Service). (2002) *Offender Assessment System*. HM Prison & Probation Service.

Hockley, O. J., & Langdon, P. E. (2015). Men with intellectual disabilities with a history of sexual offending: empathy for victims of sexual and non-sexual crimes. *Journal of Intellectual Disability Research*, *59*(4), 223–341. https://doi.org/10.1111/jir.12137.

Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice* (pp. 273–293). Cambridge University Press.

Hudson, S. M., Marshall, W. L., Wales, D., McDonald, E., Bakker, L. W., & McLean, A. (1993). Emotional recognition skills of sex offenders. *Annals of Sex Research*, *6*(3), 199–211. https://doi.org/10.1007/bf00849561.

Hughes, K., Bellis, M. A., Jones, L., Wood, S., Bates, G., Eckley, L., McCoy, E., Mikton, C., Shakespeare, T., & Officer, A. (2012). Prevalence and risk of violence against adults with disabilities: a systematic review and meta-analysis of observational studies. *Lancet*, *379*(9826), 1621–1629. https://doi.org/10.1016/S0410-6736(11)61851-5.

Jolliffe, D., & Farrington, D. P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and Violent Behavior*, *9*, 441–476. https://doi.org/10.1016/j.avb.2003.03.001.

Jones, E., & Chaplin, E. (2017). A systematic review of the effectiveness of psychological approaches in the treatment of sex offenders with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *33*(1), 79–100. https://doi.org/10.1111/jar.12345.

Keeling, J. A., Rose, J. L., & Beech, A. R. (2006). An investigation into the effectiveness of a custody-based cognitive-behavioural treatment for special needs sexual offenders. *The Journal of Forensic Psychiatry & Psychology*, *17*(3), 372–392. https://doi.org/10.1080/14789940600658293.

Keeling, J. A., Rose, J. L., & Beech, A. R. (2007). Comparing sexual offender treatment efficacy: Mainstream sexual offenders and sexual offenders with special needs. *Journal of Intellectual & Developmental Disability*, *32*(2), 117–124. https://doi.org/10.1080/13668250701402767.

Langdon, P. E., Murphy, G. H., Clare, I. C. H., Stevenson, T., & Palmer, E. J. (2011). Relationships among moral reasoning, empathy and distorted cognitions in men with intellectual disabilities and a history of criminal offending. *American Association on Intellectual and Developmental Disabilities*, *116*(6), 438–456. https://doi.org/10.1352/1944-7558-116.6.438.

Leonard, M., & Hackett, S. (2019). *AIM3 assessment*. Aim Project. Retrieved from: www.aimproject.org.uk.

Lindsay, W. R. (2005). Model underpinning treatment for sex offenders with mild learning disability: Current theories of sex offending. *Mental Retardation*, *43*(6), 428–441.10.1352/0047-6765(2005)43[428:MUTFSO]2.0.CO;2.

Lindsay, W. R. (2009). *The treatment of sex offenders with developmental disabilities: A practical handbook*. Wiley-Blackwell.

Mann, R. E., Hanson, K. R., & Thronton, D. (2010). Assessing risk for sexual recidivism: Some proposals on the nature of psychologically meaningful risk factors. *Sexual Abuse: A Journal of Research and Treatment*, *22*(2), 191–217. https://doi.org/10.1177/1079063210366039.

Mann, R. E., & Marshall, W. L. (2012). Advances in the treatment of adult incarcerated sex offenders. In A. R. Beech, L. A. Craig, & K. D.

Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 329–347). Wiley & Sons.

Marotta, P. (2015). A systematic Review of behavioral health interventions for sex offenders with intellectual disabilities. *Sexual Abuse: A Journal of Research and Treatment*, *29*(2), 1–38. https://doi.org/10.1177/1079063215569546.

Marques, J. K. (1999). How to answer the question "Does sex offender treatment work?". *Journal of Interpersonal Violence*, *14*, 437–451. https://doi.org/10.1177/088626099014004006.

Marshall, W. L. (1996). Assessment, treatment and theorizing about sex offenders: Developments during the past twenty years and future directions. *Criminal Justice and Behavior*, *23*(1), 162–199. https://doi.org/10.1177/0093854896023001011.

Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 257–275). Plenum.

Marshall, W. L., & Eccles, A. (1995). Cognitive-behavioral treatment of sex offenders. In V. B. Van Hasselt, & M. Hersen (Eds.), *Sourcebook of psychological treatment manuals for adult disorders* (pp. 295–332). B.T. Batsford.

Marshall, W. L., Hudson, S. M., Jones, R., & Fernandez, Y. M. (1995). Empathy in sex offenders. *Clinical Psychology Review*, *15*, 99–115. https://doi.org/10.1016/0272-7358(95)00002-7.

Marshall, W. L., Jones, R., Hudson, S. M., & McDonald, E. (1993). Generalized empathy in child molesters. *Journal of Child Sexual Abuse*, *2*(4), 61–68. https://doi.org/10.1300/j070v02n04_04.

Marshall, W. L., & Maric, A. (1996). Cognitive and emotional components of generalised empathy deficits in child molesters. *Journal of Child Sexual Abuse*, *5*(2), 101–110. https://doi.org/10.1300/J070v05n02_06.

Martinello, E. (2015). Reviewing risks factors of individuals with intellectual disabilities as perpetrators of sexually abusive behaviors. *Sexuality and Disability*, *33*(2), 269–278. https://doi.org/10.1007/s11195-014-9365-5.

Melvin, C. L., Langdon, P. E., & Murphy, G. H. (2019). "I feel if I didn't come to it anymore, maybe I would go back to my old ways and I don't want that to happen": Adapted sex offender treatment programmes: Views of service users with autism spectrum disorders. *Journal of Applied Research in Intellectual Disabilities*, *33*, 739–756. https://doi.org/10.1111/jar.12641.

Michie, A. M., & Lindsay, W. R. (2012). A treatment component designed to enhance empathy in sex offenders with an intellectual disability. *The British Journal of Forensic Practice*, *14*(1), 40–48. https://doi.org/10.1108/14636641211204450.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G. & The PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *Annals of Internal Medicine*, *151*(4), 264–270. https://doi.org/10.1371/journal.pmed.1000097.

Murphy, G. H., & Mason, J. (2014). Forensic and offending behaviour. In E. Tsakanikos, & J. McCarthy (Eds.), *Handbook of psychopathology in intellectual disability* (pp. 281–303). Springer Science.

Murphy, G., Powell, S., Guzman, A. M., & Hays, S. J. (2007). Cognitive-behavioural treatment for men with intellectual disabilities and sexually abusive behaviour: a pilot study. *Journal of Intellectual Disability Research*, *50*(2), 902–912. https://doi.org/10.1111/j.1365-2788.2007.00990.x.

National Research Council. (2001). Risk factors for people with disabilities. In National Research Council, *Crime victims with developmental disabilities: Report of a workshop* (pp. 22–31). : The National Academies Press.

Newton, L., Bishop, S., Ettey, J., & McBrien, J. (2011). The development of a sex offender assessment and treatment service within a community learning disability team (The SHEALD Project): Part 2. *Tizard Learning Disability Review*, *16*(3), 6–16. https://doi.org/10.1108/13595471111158648.

Ralfs, S., & Beail, N. (2012). Assessing components of empathy in sex-offenders with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *25*, 50–59. https://doi.org/10.1111/j.1468-3148.2011.00648.x.

Reid, C., Davis, H., Horlin, C., Anderson, M., Baughman, N., & Campbell, C. (2011). The Kids' Empathic Development Scale (KEDS): A multidimensional measure of empathy in primary school-aged children. *British Journal of Developmental Psychology*, *31*, 231–256. https://doi.org/10.1111/bjdp.12002.

Rogers, K., Dziobek, I., Hassenstab, J., Wolf, O. T., & Convit, A. (2007). Who cares? Revisiting empathy in Asperger syndrome. *Journal of Autism and Developmental Disorders*, *37*, 709–715. https://doi.org/10.1007/s10803-006-0197-8.

Rose, J., Jenkins, R., O'Connor, C., Jones, C., & Felce, D. (2002). A group treatment for men with intellectual disabilities who sexually offend or abuse. *Journal of Applied Research in Intellectual Disabilities*, *15*, 138–150. https://doi.org/10.1046/j.1468-3148.2002.00110.x.

Sakdalan, J. A., & Collier, V. (2012). Piloting an evidence-based group treatment programme for high risk sex offenders with intellectual disability in the New Zealand setting. *New Zealand Journal of Psychology*, *41*(3), 5–11.

Sex Offender Treatment Services Collaborative – Intellectual Disability (SOTSEC-ID) (2010). Effectiveness of group cognitive-behavioural treatment for men with intellectual disabilities at risk of sexual offending. *Journal of Applied Research in Intellectual Disabilities*, *23*, 537–551. https://doi.org/10.1111/j.1468-3148.2010.00560.x.

Sinclair, N. R. (2011). *Development and evaluation of a treatment package for men with an intellectual disability who sexually offend*. Unpublished PhD dissertation. University of Kent.

Smith, A. (2006). Cognitive empathy and emotional empathy in human behaviour and evolution. *The Psychological Record*, *56*, 3–21.

Ward, T. (2002). The management of risk and the design of good lives. *Australian Psychologist*, *37*(3), 172–179. https://doi.org/10.1080/00050060210001706846.

Ward, T., & Siegert, R. (2002). Towards a comprehensive theory of child sexual abuse: A theory knitting perspective. *Psychology, Crime and Law*, *8*(4), 319–351. https://doi.org/10.1080/10683160208401823.

Westbury, H. R., & Neumann, D. L. (2008). Empathy-related responses to moving film stimuli depicting human and non-human animal targets in negative circumstances. *Biological Psychology*, *78*, 66–74. https://doi.org/10.1016/j.biopsycho.2007.12.009.

Williams, F., Wakeling, H., & Webster, S. (2007). A psychometric study of six self-report measures for use with sexual offenders with cognitive and social functioning deficits. *Psychology, Crime & Law*, *13*(5), 505–522. https://doi.org/10.1080/10683160601060739.

Williams, L. M., & Finkelhor, D. (1990). The characteristics of incestuous fathers. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 231–255). Plenum.

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology & Health*, *15*(2), 215–228. https://doi.org/10.1080/08870440008400302.

Young, J. M., & Solomon, M. J. (2009). How to critically appraise an article. *Nature Clinical Practice: Gastroenterology & Hepatology*, *6*(2), 82–91.

Youth Justice Board (YJB). (2014). *AssetPlus*, YJB

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