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Article

Communication and cross-examination in court for children and adults with intellectual disabilities: a systematic review

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Abstract

Courts in England, Wales and Northern Ireland have identified children and adults with intellectual disabilities (ID) as vulnerable witnesses. The call from the English Court of Appeal is for advocates to adjust questioning during cross-examination according to individual needs. This review systematically examined previous empirical studies with the aim of delineating the particular communication needs of children and adults with ID during cross-examination. Studies utilising experimental methodology similar to examination/cross-examination processes, or which assessed the communication of actual cross-examinations in court were included. A range of communication challenges were highlighted including: suggestibility to leading questions and negative feedback; acquiescence; accuracy; and understanding of court language. In addition, a number of influencing factors were identified, including: age; IQ level; question styles used; recall memory; and delays. This review highlights the need for further research using cross-examination methodology and live practice, that take into consideration the impact on communication of the unique environment and situation of the cross-examination process.

Keywords

Vulnerable witness, communication, intellectual disability, learning disability, cross-examination.

Introduction

There are three main international classification systems in place for diagnosis of an intellectual disability (ID), ICD-11¹, DSM-5 (American Psychiatric Association, 2013) and AAIDD 11 (Schalock et al., 2010). They vary in the descriptive terms used and the criteria for severe disability, however they all agree that the presence of three characteristics is required for a formal diagnosis of ID:

1. Impairment of intelligence (IQ below 70)
2. Impairment of adaptive functioning²
3. Occurring during the developmental stages of life (i.e. below 18 years old).

These impairments are often made more complex by being linked to other genetic (e.g. Down Syndrome), medical (e.g. cerebral palsy) and sensory (e.g. hearing loss) conditions (American Psychiatric Association, 2013). They may also be associated with Attention Deficit Hyperactivity Disorder (ADHD) (Neece, Baker, Blacher, & Crnic, 2011), mental health difficulties (Cooper, Smiley, Morrison, Williamson, & Allan, 2007; Emerson & Hatton, 2007; Strømme & Diseth, 2000), communication difficulties (American Psychiatric Association, 2013) and autism (a developmental disability that affects social and communication functioning).³ This can result in daily challenges for people with ID to live within communities and appropriately navigate their way through the complicated systems of society, thereby leaving them vulnerable to abuse and criminality.

Previous research concerning social vulnerability of people with ID has reported a greater level of risk of individuals with ID being victims of crime (Clare & Murphy, 2001; Henry & Wilcock, 2013) compared to the general population. They may be over-represented as alleged perpetrators of crime too, at the police station stage. In prison, the precise prevalence figures for the number of people with ID have been much disputed in the UK and elsewhere; they undoubtedly vary enormously with the method for screening for ID and the jurisdiction in question (Murphy & Mason, 2014).

It has been recognised for some time that, regardless of prevalence, people with ID who are victims or witnesses of crimes are vulnerable in the criminal justice system at various stages so that in England, Wales and Northern Ireland, people with ID come under the legal category of ‘vulnerable witnesses’ (Youth Justice and Criminal Evidence Act, 1999, Criminal Evidence (NI) Order 1999). In response to recommendations made in the 1998 *Speaking up for Justice* report (Burton, Evans, & Sanders, 2006) the courts are required to consider applications of eight special measures for vulnerable witnesses⁴:

- screening witness from the accused
- evidence given by live link
- evidence given in private
- removal of wigs and gowns
- video recorded evidence in chief
- video recorded cross-examination or re-examination
- examination of witness through an intermediary

¹ <http://www.who.int/classifications/icd/en/>

² *Adaptive functioning can be defined as possessing conceptual (e.g. language), social and practical skills (American Psychiatric Association, 2013).

³ www.icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/437815624 (ICD 11 6A02)

⁴ S.23-S.30 of Youth Justice and Criminal Evidence Act 1999

- the use of aids to communication

These special measures were initially intended for non-defendant witnesses, although following a challenge under Human Rights legislation in *SC v UK*, 40 EHRR 10, there has been some limited provision made for defendants in England and Wales (Fairclough, 2016, 2018). In Northern Ireland legal provision is made for intermediaries for the accused during police interview, examination and cross-examination⁵ and for live link when giving evidence in court.⁶(Cooper & Mattison, 2017)

Cross-examination

Keane et al., (2010) describe two main purposes of cross-examination: firstly, to extract evidence supporting the opposing party's version of the facts and secondly, to cast doubt on the witness's version of events. In his 'Ten Commandments of Cross-examination' Pratt suggests that advocates can use the skills of personality, presence and persuasion to carry out successful cross-examination (Pratt, 2003). However, these skills have been subject to criticism. For some, cross-examination is seen as a way to discredit the witness (Clark, 2011), to control and undermine confidence (Valentine & Maras, 2011), and challenge credibility (Wheatcroft, Wagstaff, & Kebbell, 2004). Cross-examination can cause inaccuracies in eyewitness accounts (Keane, 2012; Keane & Fortson, 2011; Wheatcroft et al., 2004; Wheatcroft & Woods, 2010), particularly for vulnerable witnesses (Geddes, 2016; Gerry & Cooper, 2017; Henderson, 2014; Hoyano, 2015; Keane, 2012). The use of leading questions during cross-examination has come under particular scrutiny and criticism (Keane, 2012; Sharman & Powell, 2012; Valentine & Maras, 2011; Wheatcroft et al., 2004) especially when used with vulnerable witnesses (Agnew & Powell, 2004; Sharman & Powell, 2012).

Some critics suggest that cross-examination by advocates should be replaced by a suitably qualified third party (Hoyano, 2015; Zajac, O'Neill, & Hayne, 2012) or changed to an inquisitorial system, which purportedly arrives at the truth through investigation rather than witness examination (Bowden, Henning, & Plater, 2014). Whilst Myers (2017) agrees that inappropriate cross-examination should not be permitted, he argues that the process itself is vital, highlighting the importance of questioning the witness in the search for truth (Myers, 2017).

The English Court of Appeal, however, has also demonstrated dissatisfaction with the cross-examination process, with a series of judgments declaring the inappropriateness of leading and 'tag' questions (*R v W and M*, [2010]); advocating short simple questions with the onus placed firmly on the advocates to adjust to the needs of the vulnerable witness (*R v Barker*, [2010]); declaring that advocates do not have a given right to 'put the case' to the witness (*R v E*, [2011]; *R v RK*, [2018]; *R v Wills*, [2011]) and recommending ground rules hearings, (*R v Lubemba*; *R v JP*, [2014]), where the Judge directs on what needs to be put in place to ensure fair treatment of the witness, particularly during cross-examination (Cooper, Backen, & Marchant, 2015).

However, these rulings were mainly based on cases for child witnesses. An exception is a more recent case (*R v Jones*, [2018]) in which questions asked of an adult defendant with significant intellectual difficulties were deemed unfair and a factor in the quashing of his

⁵ 21BA and 21 BB of Criminal Evidence (NI) Order 1999

⁶ 21A and 21B of Criminal Evidence (NI) Order 1999

conviction. Do the same challenges as highlighted for children in the Court of Appeal apply for children and adults with ID, or do these latter witnesses face even greater communication challenges during cross-examination?

The aim of this paper is to report a systematic review of previous empirical research that could inform the key communication challenges for people with ID during cross-examination. The objectives were to unearth key communication challenges relating to the cognitive impairments and adaptive functioning of both children and adults with ID and the impact of the challenges for the cross-examination of these vulnerable witnesses.

Various non-systematic reviews have been carried out that have relevance for this subject. Kebbell and Hatton's review in 1999 reported that witnesses with ID could provide accurate accounts of events even though such accounts might have contained less information and could have been adversely affected by question style (Kebbell & Hatton, 1999). Gudjonsson and Joyce's review of interviewing adults with ID also discovered difficulties with: understanding the oath and legal rights; suggestibility; acquiescence (saying yes to every question), compliance; and perceptions of the consequences of false confessions (Gudjonsson & Joyce, 2011). Milne and Bull (2001) highlighted the need to find ways to enhance recall (Milne & Bull, 2001) and Bowles and Sharman's review of the impact of leading questions called for the need to avoid them when interviewing people with ID (Bowles & Sharman, 2014a). Nevertheless, previous literature on this topic has not been reviewed systematically – a systematic review (SR) being regarded as the 'gold standard' of literature reviews, since it requires a more rigorous search of literature, detailed and transparent selection and screening of articles, and a critical appraisal of evidence (Petticrew, 2006). Our work therefore attempted to fill this gap.

Methodology

Search strategy and sources of literature

For the identification of primary studies on communication for people with ID during cross examination, the following search terms were used:

(Intellectual disabilit or Intellectual difficult*or Learning disabilit*or Learning difficult*or Developmental disabilit*or Cognitive impairment or Mental retardation or Mental handicap) AND (Communication or Acquiescence or Memory or Recall or Leading questions or Accuracy or Suggestibility or Expressive language or Reflective language or Question styles or Question types or Questioning) AND (Cross-examination or Court or Courtroom or Witness or Defendant or Eyewitness or Testimony)*

A series of databases were used for the search, to provide a wide and comprehensive search of criminal justice, social science and psychological papers: IBSS, EBSCO criminal justice, EBSCO academic search complete, PsycINFO EBSCO, PsycARTICLES EBSCO, SCOPUS, Lexis, Westlaw UK, Campbell, Cochrane.

Titles and/or abstracts were read for all papers found in the searches (after removal of duplicates), and this was followed by reading the full text for those articles where the abstracts indicated that the inclusion and exclusion criteria had been met, or if further

clarification was required. Reference lists were also checked on the papers chosen following full text searches, and some authors contacted to locate older papers and request any current research. The initial searches were carried out in January and February 2018.

Inclusion and exclusion criteria

Specific search fields were not chosen, to avoid excluding relevant documents. An exception was made for the IBSS database as 155,999 papers were found with the initial search. A search under ‘mainsubject’ was therefore applied. All retrieved studies were assessed against the inclusion and exclusion criteria in Table 1.

Table 1

Parameters	Inclusion Criteria	Exclusion Criteria
Participants	<p>Participants with diagnosis of intellectual disabilities. i.e. IQ below 70.</p> <p>Participants with no diagnosis, but lower IQ, i.e. ‘borderline’</p>	<p>Learning difficulties without presence of cognitive impairment, e.g. dyslexia.</p> <p>Other conditions that result in cognitive impairment but are not present from childhood e.g. Parkinson’s, stroke</p>
Methods used in the studies	<p>Studies that assessed or tested understanding and expressive (spoken) communication using an experimental methodology similar to that of witnessing/experiencing an event, examination and cross-examination.</p> <p>Studies that address communication using actual cross-examinations of people with ID.</p>	<p>Papers testing for competency/capacity (Assumed for cases that proceed to cross-examination)⁷.</p> <p>Juror/advocate/witness/judiciary perceptions</p> <p>Papers that concentrate only on police investigative interviews.</p> <p>Papers that only concentrate on memory recall of an event, without follow up interview questions.</p>
Study type	<p>Empirical research</p> <p>Peer-reviewed</p>	<p>Reviews</p> <p>Book chapters</p> <p>Theses</p> <p>Single case studies</p>
Results	<p>Studies that report on specific communication challenges for people with ID.</p> <p>Studies that specifically address communication and cross-examination</p>	<p>Studies that address communication issues for people with ID but not using research in a format that is relevant to examination and cross-examination, e.g. interview style questioning about an event/alleged event.</p>

⁷ S.53 Youth Justice and Criminal Evidence Act 1999

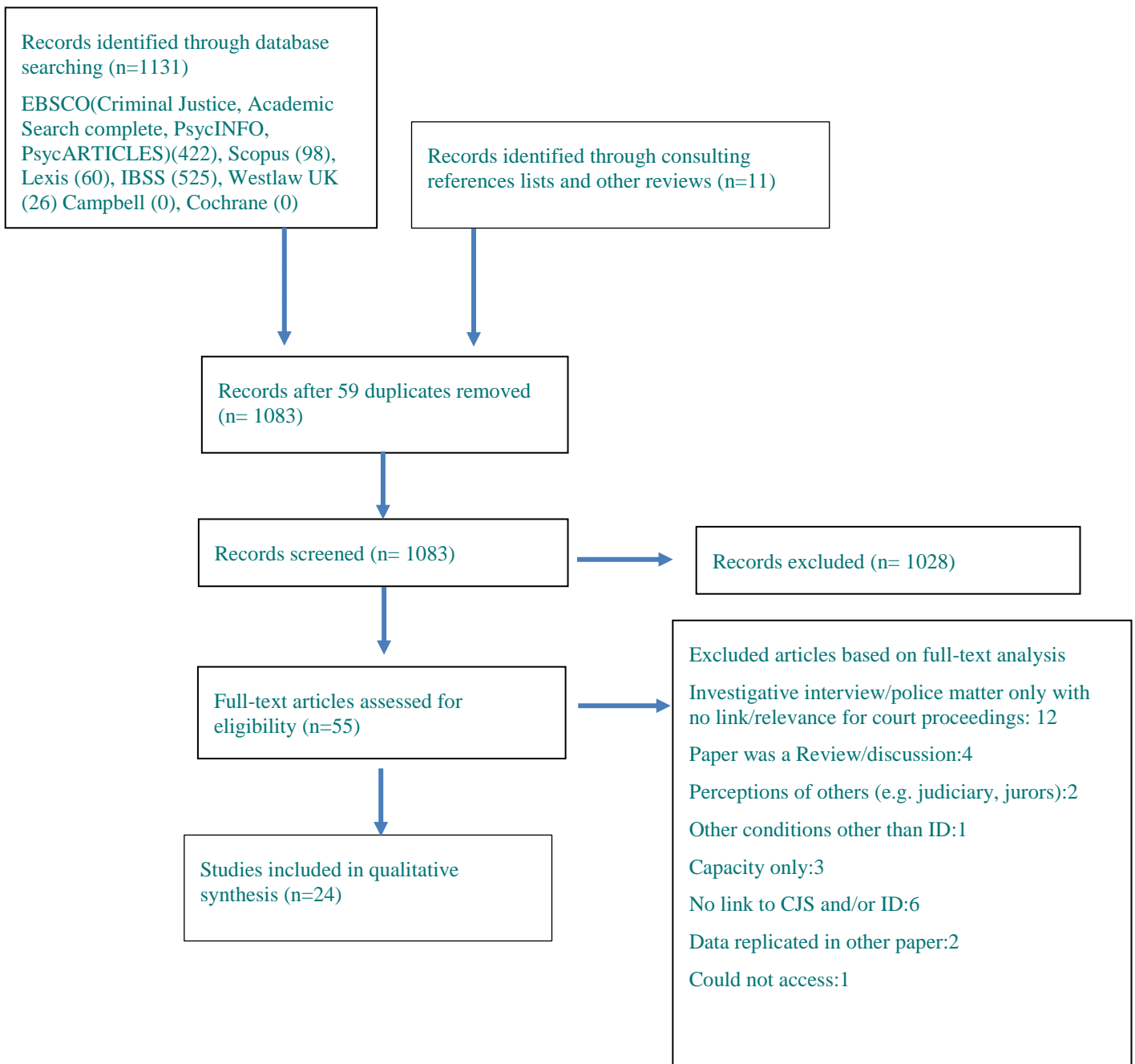
Country of origin and language	Studies conducted in any country were eligible but only those reported in English language.	Not English language.
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Once inclusion and exclusion criteria were applied, 24 papers remained and were accepted into the review. The PRISMA (Preferred Reporting Items for Systematic Reviews) framework was used to structure the review (Moher, Liberati, Tetzlaff, & Altman, 2009) and can be seen in Figure 1.

Data synthesis

A thematic analysis was carried out, based on the six phases outlined by Braun and Clarke (Braun & Clarke, 2006). The papers were read in detail and codes extracted according to the data driven results that demonstrated relevance for communication challenges for people with ID. Six key themes emerged and mind maps were created according to each theme with the information from the codes included. A list of authors was recorded beside the information from the codes to ascertain the most common findings. An additional subject (court language) was added as one of the papers was different in its area of research compared to the other papers included (Ericson & Perlman, 2001). The data were also analysed by the second two authors for inter-rater reliability in terms of including papers and to guard against any inclusion bias from the primary author.

Figure 1 PRISMA flow diagram for study selection



Participants

The papers were mainly from the UK (15), also USA (4), Australia (3) and Canada (2). There were 9 studies involving adults with ID, 10 involving children with ID and 5 involving both adults and children. The 24 papers found resulted in research findings for a combined total of 1,427 participants with ID including:

- 652 adults
- 690 children (aged 6-17 years)
- 85 children and adults (Gudjonsson, 1990, Collins and Henry 2016, no age breakdown given)

801 control participants including:

- 223 adult controls
- 578 children controls

Methods used by the studies included

Most (16 of the 24 studies) compared the children or adults with ID to control groups of children or adults without ID (and/or with borderline ID). Of the studies with children, almost half used matched control groups: 7 had a control group matched for mental age and 6 matched for chronological age (4 of the studies matched for both).

The majority of the studies (19) employed analogue designs, mimicking court procedures experimentally, most often by questioning participants following verbal stories (e.g. on the Gudjonsson Suggestibility Scale, GSS) or filmed events (e.g. of a mock crime), but sometimes following real or imagined events (such as magic shows or health checks). Only one of these followed up with a mock cross-examination (Bettenay, Ridley, Henry, & Crane, 2014). Two studies used retrospective analysis of pre-existing information, either court transcripts (Kebbell et al, 2004) or court reports (Gudjonsson, 1990). Three studies simply assessed understanding of court language (Ericson & Perlman, 2001) or acquiescence (Sigelman et al., 1981 & 1982).

The most common variables investigated were the effects of ID on accuracy of recall and correct response to questions. Inaccuracy was often characterised as due to acquiescence (5), suggestibility (9), confabulation (4) or compliance (1). The relationships of these latter variables were investigated in relation to question styles (11 papers); free recall (11); time delay (6); level of ID (6).

Further information can be seen in Table 2.

Table 2 Characteristics of included papers

Paper	Design	Participant details	Methods used	Results
1	Adults:			
Bowles & Sharman (2014) (Australia)	Analogue study of witnessed event using DVD Single group of people with ID. Within group comparisons of question types & misleading/correct information	Single ID group: 41 participants Verbal IQ 50-75 (mild) Mean age 32 years (range 22-48)	Participants assigned to watch 1 of 2 versions of a DVD, identical except for 8 critical items. Visual-verbal presentation 12 minute distractor task Misinformation interview – questioned on 8 critical items. ½ critical items = correct information ½ critical items = misleading information 4 question types: Closed questions Closed specific Closed presumptive (tag) Open presumptive Recognition test and confidence in answer PPVT-iv verbal IQ test	Overall = 52% accuracy Correct information: Closed and closed presumptive questions = greater accuracy Closed specific = least accurate Misleading information: Closed presumptive = least accurate. More suggestible to misleading information in presumptive question style. More confident about answers to misleading questions than control questions

	Paper	Design	Participant details	Methods used	Results
2	Cardone & Dent (1996) (UK)	Analogue study, using visual &/or audio story Two ID groups (2 modes of story presentation) 3 recall/question conditions)	2 ID groups: 60 participants divided randomly into 2 groups. IQ 53-74(mild) Mean age 36.8 years (range 24-56)	Group 1 received a verbal presentation of GSS2 Group 2 received a verbal and visual presentation. Each group received 1 of 3 recall/question methods: 1. Free recall 2. General questions 3. Specific questions IQ: Wechsler Adult Intelligence Scale - Revised (WAIS-R)	Visual-verbal presentations resulted in greater recall, accuracy and less yield suggestibility in immediate and delayed interviews There was no impact on shift Specific questions resulted in more information provided in free recall and greater accuracy Question type does not affect yield or shift.
3	Clare & Gudjonsson (1993) (UK)	Analogue study, using verbal story Two groups (ID; no ID) compared.	ID group: 20 participants Mean age 27 years (range 20-48) IQ 57-75 Control group: 20 participants, no ID Mean 30 years (range 18-50) IQ 83-111	GSS 2 - verbal Suggestibility Confabulation Acquiescence IQ: WAIS-R	ID group (c.f. no ID group): More suggestible Confabulated more More acquiescent More suggestible to leading questions Not suggestible to negative feedback

	Paper	Design	Participant details	Methods used	Results
4	Ericson & Perlman (2001) (Canada)	Assessment of comprehension of court language Two groups (ID, no ID)	ID group: 40 participants Mean age 31.85 years (range 18-50) IQ: 50-75 Control group: 40 participants, no ID Mean age = 32.57 years (range 18-50)	Interview: Knowledge of word/term More detailed information about the word/term	ID group: 40% previously involved in criminal court cases as defendant, victim or witness. Only understood 8/34 terms. Familiarity of terms in ID group was not necessarily linked to the difficulty of the term. Control: 12.5% previously involved in court case. Understood 33/34 terms.
5	Gudjonsson & Clare (1995) (UK)	Analogue study (verbal story) Single group, range of IQs	Single mixed group: 145 participants: Mean 31-32 years (range 17-69) Mean IQ = 81.1 66 with ID attending day centre/residential 58 unemployed with no ID identified 21 staff in mental health service	GSS 2: Recall Suggestibility Confabulation Acquiescence IQ: WAIS-R	Lower IQ is linked to greater level of suggestibility No significant links between confabulation and IQ, memory, suggestibility and acquiescence.

	Paper	Design	Participant details	Methods used	Results
6	Kebbell et al (2004) (UK)	Retrospective analysis of court transcripts Two groups (ID; no ID)	ID group: 16 court transcripts of witnesses with ID Control group: 16 court transcripts of witnesses without ID, matched for crime, year and court. All participants were alleged victims of rape, sexual assault or assault with trials between 1994-1999. No further participant information provided	Response coding for 15 question types	Significantly more questions asked in cross examination than in examination in chief Also more yes/no, leading, negatives, multiple, repeated questions. Those with ID provided less information and were more suggestible to leading questions. No significant group differences in how cross-examination is carried out.
7	Milne et al (2002) (UK)	Analogue study (visual/verbal story) Two groups (ID; no ID)	ID group: 46 participants Mean age 35 years (range 19-59) Mild IQ Control group: 38 participants recruited via job centre and newspaper. Mean age 39 years (range 19-62) No IQ level provided	Visual-verbal presentation Interview based on GSS: 4 misleading questions 4 non-leading 4 false alternatives Negative feedback-shift	ID associated with more yield suggestibility Better recall associated with less yield False alternatives: both groups likely to select last option No significant effect of negative feedback on shift.
8	Perlman et al (1994) (Canada)	Analogue study (short film)	ID group: 30 participants	Observation of short film Immediate interview:	ID group: Remember ½ as much as control group

Paper	Design	Participant details	Methods used	Results		
		Age range 17-26 years IQ 55-80	Free recall General questions Short answer – non-leading/misleading Specific yes/no questions Statement questions	Less able to make inferences Same level of accuracy as control group Non-leading short answer questions and misleading statements cause less accuracy. Misleading short answers cause more confabulation.		
9	White & Willner (2005) (UK)	Two groups (ID; no ID) Control group: 30 participants, no ID Normal IQ but likely to be higher than general population (57% students) Age range 17-26 years	Analogue study (verbal story, vs witnessed events 1 mth ago or 18 mths ago) Two ID groups, were told the story, one witnessed live event, one did not)	ID group: 20 participants (16 completed both ASS 1 and ASS2) No age provided IQ <70 Attended day centre E ID Control group: 20 participants (12 completed both ASS 1 and ASS2) IQ <70 Attended day centre C	GSS 2 Verbal passage read ASS 1 Verbal passage read based on live event at Centre E 18 months previously. ASS 2 Verbal passage read based on live event at Centre E 1 month previously WASI (IQ) and BPVS (receptive language) tests	Those who had witnessed an event in the past were 1/3 less suggestible than those who heard about it. Those who had recently witnessed an event were 2/3 less suggestible than those who heard about it. Within the results of the participants in the control group there were no differences between the recall or suggestibility scores of the GSS, ASS1 or ASS2.

Children:

	Paper	Design	Participant details	Methods used	Results
10	Bettenay et al (2014) (UK)	Analogue study (witnessed a live scene) Three groups (mild ID; borderline ID; no ID)	Mild/Moderate ID group: 18 participants Mean age 9 years (range 7-11) IQ 47-67 Borderline ID group: 13 participants Mean age 10 years (range 9-11) IQ 70-82 Control group: 59 participants, no ID Mean age 8.6 years (range 4-11) IQ 85-121	Live scene witnessed Interview 1 – 3-6 days afterwards Cross examination 10 months later Questions challenging and unchallenging evidence.	ID + borderline groups provided less accurate recall Borderline group performed no differently to control for prompted specific recall questions. During cross-examination all children changed ½ answers or more. 97.8% of all children ceded to at least 1 challenge. No significant group differences. Lower recall ability resulted in children being more suggestible to challenges.
11	Brown & Lewis (2012) (UK)	Analogue study (real event) 4 groups: mild ID; moderate ID; non-ID	Mild/borderline ID group: 46 participants IQ 56-78 Age range 7-12 years	WISC-111, WPPSI-111 IQ tests Interactive training session on 1 st Aid ½ participants interviewed after 1 week ½ participants interviewed after 6 months	ID groups: A delay in interview resulted in less information recalled, more prompts required and less accuracy.

Paper	Design	Participant details	Methods used	Results	
	CA matched;non-ID MA matched. Delay: 1 week or 6 mths Several question styles	Moderate ID group: 35 participants Age range 7-12 years IQ 44-53 No ID CA-matched control: 60 participants Age range 7-11.5 years IQ 84-125 No ID MA-matched control: 65 participants Age range 4-9 years IQ 85-124	Open invitations Cued invitations Direct questions Misleading Leading Open/closed	Direct questions gained most information. Open invitations gained most accuracy. Moderate ID participants performed lower in all areas and were more suggestible. Mild ID were similar to MA-matched participants.	
12	Dent (1986) (UK)	Analogue study (live event witnessed) Single group (all ID) 3 recall/question styles	Single ID group: 23 participants Age range 8-11 years IQ 49-70 Mean IQ 61.6 No controls	Live scene witnessed Next day interview: Free recall (8 participants) General questions (8 participants) Specific questions (7 participants)	More information is remembered in response to specific questions. General questions result in the most accurate responses.

	Paper	Design	Participant details	Methods used	Results
13	Gordon et al (1994) (USA)	Analogue study (real ID group: vs imagined events) Two groups (ID; no ID)	23 participants Mean age 10.3 years (range 8-13) Mean PPVT -R 57.35 No ID MA-matched control group: 23 participants Age 6 years (Mean PPVT-R 95.96	24 interactive activities: 10 imagined 10 performed 4 performed and probed with misleading questions at interview. 1st Interview - immediate 2nd Interview 6 weeks later Open ended – specific questions 12 misleading questions Peabody Picture Vocabulary Test-Revised (PPVT-R)	Few group differences. Mental age is a good indicator of performance Children with ID are more likely to remember performed activities rather than imagined.
14	Henry & Gudjonsson (1999) UK	Analogue study (live event) 4 groups: mild ID; moderate ID; no ID CA matched; no ID MA matched Several recall/question styles	Mild/borderline ID group: 17 participants Age range 11-12 years IQ 55-79 Moderate ID group: 11 participants Age range 11-12 years IQ 40-54 No ID CA matched control group: 19 participants	Live scene in classrooms Interview 1 day later: Free recall 4 general questions 12 open ended specific questions – 6 non-leading, 6 misleading. GSS WISC=III IQ test	ID group: Remember less than CA matched controls group but more than MA matched controls. More suggestible to closed misleading questions than CA group but similar to MA grp. No significant differences for: General Questions Open -ended non-leading or misleading Yes/No non leading Accuracy

Paper	Design	Participant details	Methods used	Results
		Age range 11-12 years IQ 81-132		More suggestible to negative feedback than MA matched group
		No ID MA matched control group: 21 participants		
		IQ 80-140		
15	Henry & Gudjonsson (2003) (UK)	Mild/borderline ID group: 30 participants IQ 55-79 Age range 11-12 years Mean IQ 65.6 Moderate ID group: 17 participants IQ 40-54 Age range 11-12 years Mean IQ 45.5 No ID CA matched control group: 25 participants Age 11-12 years Mean IQ 104.5	Live scene witnessed 1 st Interview 1 day later 2 nd Interview 2 weeks later Free recall Open ended specific questions – leading and non-leading Closed yes/No questions GSS 2	All children recalled more in 2 nd interview but were less accurate. Mild ID: Remembered as much as CA matched group & more than MA matched group Not more suggestible than CA or MA matched groups. Lower scores on open ended nonleading questions and changed answers more in repeated recall. Moderate ID: lower performance on every type of question compared to CA matched group. Remembered more than MA matched control group. More suggestible than CA group and changed answers more in repeated recall.

Paper	Design	Participant details	Methods used	Results
		<p>No ID Control group MA matched for Mild ID group:</p> <p>14 participants</p> <p>Age 5-8 years</p> <p>Mean IQ 106.3</p>		
		<p>No ID Control group MA matched for moderate ID group:</p> <p>14 participants</p> <p>Age 5-8 years</p> <p>Mean IQ 100.6</p>		
16	Henry & Gudjonsson (2007) (UK)	<p>Analogue study (video clip of event)</p> <p>4 groups: mild ID; moderate ID; no ID CA matched for each ID group</p> <p>Mild ID group:</p> <p>18 participants</p> <p>Age range 8-9 years</p> <p>Mean non-verbal IQ 69.94</p> <p>Mean verbal IQ 69.94</p> <p>Moderate ID group:</p> <p>34 participants</p> <p>Age 12 years</p> <p>Mean non-verbal IQ 55.56</p> <p>Mean verbal IQ 58.94</p> <p>Several recall/question styles</p>	<p>Short video clip of an incident</p> <p>Interview:</p> <p>Free recall</p> <p>General questions</p> <p>Specific questions</p> <p>Yes/no questions</p> <p>GSS 2 (shortened version)</p> <p>Speed of information processing test</p> <p>BAS 11 and BPVS-11 IQ tests</p>	<p>ID groups:</p> <p>Provided less information during free recall and in response to general and specific question types</p> <p>Older children recalled more.</p> <p>Were more suggestible to yes/no questions than control groups</p> <p>Those with higher verbal IQ's were less suggestible.</p> <p>More significant relationships were found between mental age and measures of eyewitness memory performance than presence of ID. This suggests that mental</p>

	Paper	Design	Participant details	Methods used	Results
17	Jens et al (1990) (Australia)	<p>Analogue study (real ID group: or imagined events)</p> <p>Two groups (ID; no ID MA matched)</p> <p>Immediate and 8 week delay interviews</p> <p>Several recall/question styles</p>	<p>Control group CA matched for mild ID group: 20 participants Age 8-9 years Mean non-verbal IQ 102.85 Verbal IQ 101.60</p> <p>Control group CA matched for Moderate ID group: 20 participants Age 12 years Mean non-verbal IQ 105.40 Verbal IQ 98.20</p> <p>ID group: 24 participants Mean age 10 years (range 7-16) IQ 47-76.5 Mean 63.25</p> <p>MA matched control group: 30 participants</p>	<p>20 performed or imagined activities</p> <p>Interview 1</p> <p>Free recall</p> <p>Open ended probes</p> <p>Specific probes</p> <p>4 misleading questions</p> <p>Interview 2 after 8 weeks.</p> <p>Memory test (McCarthy Scales)</p>	<p>age is a better indicator of eyewitness performance.'</p> <p>A correlation was found between a faster processing speed and more information provided at free recall and in response to non-leading specific questions</p> <p>Few group differences</p> <p>All children remembered more and gave more accurate responses to questions of the activities they had performed rather than imagined.</p> <p>Both groups provided more correct responses to specific questions than open ended.</p> <p>A delay in the interview resulted in less information and less accurate recall for both groups.</p>

	Paper	Design	Participant details	Methods used	Results
18	Michel et al (2000) (USA)	Analogue study (of a real event) 3 groups (ID; no ID MA matched; no ID CA matched) Delays: immediate; 6 weeks later Several recall/question styles	Mean age 6.5 years (range 5-7) ID group: 20 participants Mean age 11.7 years (range 9-14) PPVT-R verbal IQ mean 58 CA matched control group: 20 participants Mean age 11.7 years (range 9=13) PPVT-R verbal IQ mean IQ 109 MA matched control group: 19 participants Mean age 6.3 years (range 4-8) PPVT-R verbal IQ mean IQ 104	Simulated Health Check Immediate Interview: 2 nd interview 6 weeks later: Free recall Elaboration Absent features (suggestibility) Intrusions (incorrect info given) PPVT-R test of verbal IQ	Both groups were initially likely to say that they had done something, which in fact they had only imagined. ID does not necessarily mean increased suggestibility, but other factors may be at play, i.e individual personalities and the manner in which the questions are asked. Time delay negatively impacted free recall for all groups. ID group was lower than CA matched group in all areas except for intrusions, but similar to MA matched group. Children with ID were more distractible and harder to focus. Also more likely to make irrelevant comments.
19	Young et al (2002) (Australia)	Analogue study (verbal story) Two groups (ID; no ID)	ID group: 75 participants Mean age 11.44 years (range 6-13)	GSS 2 Immediate & 2 weeks later: Child Temperament Inventory for shyness	ID group More suggestible to yield but not shift (negative feedback) Lower IQ = more suggestible

Paper	Design	Participant details	Methods used	Results
		<p>Mean IQ 61.61 (range 55-79)</p> <p>Control group: 83 participants, no ID</p> <p>Mean age 9 years (range 5-12)</p> <p>Mean IQ 103.59</p>	<p>Vineland Adaptive Behaviour scales for communication</p> <p>WASI IQ tests</p>	<p>Lower communication skills = more suggestible.</p> <p>Gender and shyness did not have any impact on performance for any group.</p> <p>For both groups older children are less suggestible.</p>
20	Children and adults Collins & Henry (2016) (UK)	<p>Analogue study (video clip)</p> <p>Two groups (ID; no ID MA matched)</p> <p>Several recall/question types</p> <p>ID group: 25 participants with Downs Syndrome</p> <p>Mean age 19 years (range 9-26)</p> <p>No ID MA-matched control group: 42 participants</p> <p>Mean age 6 years (range 3-9)</p>	<p>Short video clip of an incident</p> <p>Interview: Free recall</p> <p>General</p> <p>Non-leading specific</p> <p>Misleading specific</p> <p>Correctly leading yes/no (tag)</p> <p>Misleading yes/no (tag)</p> <p>British Picture Vocabulary Scale of receptive vocabulary (BPSV-3)</p> <p>Ravens Coloured Progressive Matrix test of non-verbal ability</p>	<p>No group difference for any question type, therefore mental age represents best estimate of witness performance.</p>

	Paper	Design	Participant details	Methods used	Results
21	Gudjonsson (1990) (UK)	Retrospective analysis of court reports Single group (all ID)	Single ID group: 60 participants Age range 16-62 years Mean age 31 years Referred by solicitors for court reports. No controls	GSS Gudjonsson Compliance Questionnaire Acquiescence WAIS -R	Lower IQ results in more acquiescence, strongest correlation. Lower IQ also results in more suggestibility. No correlation between IQ and compliance. No correlation between acquiescence and suggestibility or compliance.
22	Gudjonsson & Henry (2003) (UK)	Analogue study (verbal story) 3 child groups: mild ID; moderate ID; no ID CA matched 1 mixed adult group Various recall/question styles	Mild ID group 38 participants Age range 11-12 years IQ 55-75 Moderate ID group: 28 participants Age range 11-12 years IQ below 54 No ID CA-matched control: 44 participants Age range 11-12 years Single Adult group: 221 Adults referred to author for IQ and suggestibility assessment.	GSS 2 Recall Delayed recall (adults only) Yield 1 (number of leading questions given into before negative feedback) Yield 2 (number of leading questions given into after negative feedback) (Adults only) Shift WISC-111 and BAS-11 IQ tests	Children with ID Those who remembered less were more suggestible. Children remember more than adults. Adults: The lower the IQ, the less they remembered and the greater yield suggestibility There is no correlation between IQ and shift suggestibility.

Paper	Design	Participant details	Methods used	Results
		<p>Mean age 30.6 years</p> <p>101 adults IQ 55-75 (mild)</p> <p>27 adults IQ below 54 (moderate)</p> <p>93 adults No ID</p>		
23	Sigelman et al (1981) (USA)	<p>Assessment of acquiescence</p> <p>3 groups all with ID (children in institutions; children in community; adults in institutions)</p> <p>Various question types.</p> <p>Child ID group 1: 52 participants living in institutions Age range 12-16 years Mean IQ 42.08</p> <p>Child ID group 2: 57 children living in community Age range 12-16 Mean IQ 47.53</p> <p>Adult ID group: 42 adults living in institutions Mean IQ 39.76 Mean age 23.49 years</p>	<p>Item-reversal technique for measuring acquiescence, e.g. "Are you usually happy?" "Are you usually sad?" interspersed with unrelated questions.</p> <p>63-142 questions within 5 general topic areas.</p> <p>Interview 1 year later with those in institutions with lowest IQ and answered fewer questions.</p>	<p>Acquiescence present in 40-50% of respondents.</p> <p>Lower IQ is linked to higher likelihood of acquiescence</p> <p>Correlation between question type and acquiescence. Lowest when information is most immediate and concrete but more if not fully understood or correct answer is unknown.</p> <p>Those more likely to acquiesce are particularly susceptible to questions requiring yes/no answers.</p>
24	Sigelman et al (1982) (USA)	<p>Interview style (Responsiveness, agreement with informants, freedom from systematic</p> <p>Participants as study above except age range of children given as 11-17 years</p>	<p>Interviews of alternative questions on the same topics regarding activities, e.g. "Do you play indoor games?" "Which ones?"</p> <p>Carers/staff also asked questions to check accuracy.</p>	<p>Open ended questions were not adequate to gain information</p> <p>More information was provided in response to Yes/No questions but they resulted in greater acquiescence.</p>

Paper	Design	Participant details	Methods used	Results
	<p>response bias) = dependent variable</p> <p>Question style = independent variable</p>		<p>Community children had one interview. People in institutions had 2, one week apart.</p> <p>Open ended questions</p> <p>Probes</p> <p>Yes/No questions</p> <p>Verbal and pictorial multiple choice</p> <p>Parallel data was collected from parents or staff (informants).</p>	<p>There were no signs of preference for last option given.</p> <p>Multiple choice questions, especially pictorial ones, provided good information without increased acquiescence.</p>

Quality Assessment

The quality of each included study was assessed based on systematic research review guidelines from the Social Care Institute for Excellence (SCIE) (Rutter, Francis, Corec, & Fisher, 2010) (see Table 3). The grade in the final column indicates the overall quality of the paper with a higher grade indicating higher quality. SCIE is a support agency and an independent charity working with adults', families' and children's services across the UK and as such, their quality assessment process was regarded as the most relevant for this review. All of the papers were also assessed by the second and third authors as being of sufficient quality and accepted into the review.

It was noted that there was no commonality of IQ tests used in the research with children. In particular, while some used the WAIS or WISC assessments (considered the gold standard IQ measures) others used the PPVT or BPVS which are only simple tests of language skills. This may have caused problems with the mild and moderate categorisations, in that a participant in the upper end of the moderate category in one study could actually be in the mild category in a different study.

In six papers there was evidence of measures put in place to reduce the likelihood of selection bias and in two papers evidence of measures to avoid performance bias. Attrition bias relates to the difference between groups who withdraw from a study (Higgins & Green, 2011) and two papers recorded attrition bias, in that some participants were not available for testing (White & Willner, 2005) or delayed interviews (Brown, Lewis, Lamb, & Stephens, 2012). No specific reasons were given. Detection bias addresses if the researchers recording the outcomes were blinded to the treatment the participants received (Greenhalgh & Brown, 2014) and three papers took measure to prevent detection bias. Consent from participants was recorded in fourteen papers. Only two papers recorded that the participants were representative of the population. Six papers recorded equal chance of recruitment for participants, in that it was highlighted that everyone within the particular setting was eligible to participate. All papers provided a rationale for purposive sampling and all recorded outcomes. There is some uncertainty as to whether there is enough data for valid results in four papers. This is because of low overall sample size compared to the other papers (Dent, 1986) low sample size for each method measured (Cardone & Dent, 1996; White & Willner, 2005) and only one question of each type used (Bowles & Sharman, 2014b). Eleven papers used the GSS/GSS 2 test. Nineteen of the papers included a control group (16 of these included control groups without ID) and two of the studies that used non-GSS testing, tried out the tests on a pilot group of individuals with ID.

Table 3, Quality Assessment of included studies

	Study	Selection Bias	Performance Bias	Attrition Bias	Detection Bias ⁸	Design Participation	Clear Consent	Rep. of pop.	Equal chance of recruitment	Rationale for purposive sampling	All outcomes recorded	Sample size sufficient	Enough data for valid results	Enough data for useful results	Control group	Total Quality Rating
ADULTS:																
1	Bowles & Sharman (2014)	P	U	N	U	N	Y	Y	N	Y	Y	Y	U	Y	N	17
2	Cardone & Dent (1996)	P	P	N	U	N	U	U	U	Y	Y	N	U	Y	N	13
3	Clare & Gudjonsson (1993)	P	P	N	U	N	U	U	U	Y	Y	Y	Y	Y	Y	18
4	Ericson & Perlman (2001)	P	P	N	N	Y	Y	N	U	Y	Y	Y	Y	Y	Y	21
5	Gudjonsson & Clare (1995)	U	P	N	P	N	U	U	U	Y	Y	Y	Y	Y	y	18
6	Kebbell et al (2004)	P	U	N	P	N	U	U	N	Y	Y	Y	Y	Y	Y	17

⁸ All Bias are reverse scored: Y=-1; P=0; U=1; N=2

For all other results: Y=2; U=1; N=0

Y=yes, N=no, U=uncertain, P=potential

	Study	Selection Bias	Performance Bias	Attrition Bias	Detection Bias ⁸	Design Participation	Clear Consent	Rep. of pop.	Equal chance of recruitment	Rationale for purposive sampling	All outcomes recorded	Sample size sufficient	Enough data for valid results	Enough data for useful results	Control group	Total Quality Rating
7	Milne et al (2002)	P	U	N	U	N	U	U	U	Y	Y	Y	Y	Y	Y	19
8	Perlman et al (1994)	N Y(control)	P	N	N	N	U	Y	Y	Y	Y	Y	Y	Y	Y	20
9	White & Willner (2005)	P	P	Y	P	N	Y	U	U	Y	Y	N	U	Y	Y	12
CHILDREN:																
10	Bettenay et al (2014)	P	N	N	U	N	U	U	U	Y	Y	U	Y	Y	Y	20
11	Brown & Lewis (2012)	U	P	Y	N	N	Y	U	U	Y	Y	Y	Y	Y	Y	18
12	Dent (1986)	P	N	N	U	N	Y	Y	U	Y	Y	N	U	Y	Y	19
13	Gordon et al (1994)	N	P	N	U	N	Y	U	Y	Y	Y	Y	Y	Y	Y	22
14	Henry & Gudjonsson (1999)	P	P	N	N	Y	Y	U	U	Y	Y	Y	Y	Y	Y	22

	Study	Selection Bias	Performance Bias	Attrition Bias	Detection Bias ⁸	Design Participation	Clear Consent	Rep. of pop.	Equal chance of recruitment	Rationale for purposive sampling	All outcomes recorded	Sample size sufficient	Enough data for valid results	Enough data for useful results	Control group	Total Quality Rating
15	Henry & Gudjonsson (2003)	P	P	N	P	N	Y	U	U	Y	Y	Y	Y	Y	Y	18
16	Henry & Gudjonsson (2007)	P	P	N	P	N	Y	U	U	Y	Y	Y	Y	Y	Y	18
17	Jens et al (1990)	P	P	P	P	N	Y	N	U	Y	Y	Y	Y	Y	Y	15
18	Michel et al (2000)	N	P	U	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	21
19	Young et al (2003)	P	P	N	P	N	Y	U	U	Y	Y	Y	Y	Y	Y	18
ADULTS AND CHILDREN:																
01	Collins & Henry (2016)	U	P	N	P	N	Y	U	U	Y	Y	Y	Y	Y	Y	19
21	Gudjonsson (1990)	N	P	N	P	N	U	U	U	Y	Y	Y	Y	Y	N	19
22	Gudjonsson & Henry (2003)	N	P	N	P	N	U	U	Y	Y	Y	Y	Y	Y	Y	20
23	Sigelman et al (1981)	N	P	N	P	N	Y	U	Y	Y	Y	Y	Y	Y	N	21

	Study	Selection Bias	Performance Bias	Attrition Bias	Detection Bias ⁸	Design Participation	Clear Consent	Rep. of pop.	Equal chance of recruitment	Rationale for purposive sampling	All outcomes recorded	Sample size sufficient	Enough data for valid results	Enough data for useful results	Control group	Total Quality Rating
24	Sigelman et al (1982)	N	P	N	P	N	U	U	Y	Y	Y	Y	Y	Y	N	18

Results

Six interrelated themes were derived from the synthesis. These included interrogative suggestibility; challenges with memory; challenges with accuracy; confabulation; acquiescence; and court language.

Theme 1. Interrogative Suggestibility

Interrogative suggestibility (IS) was a theme running through 15 of the 24 papers reviewed and related to how willing and susceptible a person was to changing their mind in response to questions during an interview (see Gudjonsson & Clark, 1986). Many of the studies reviewed had used Gudjonsson (1984, 1987) tests (GSS and GSS2) assessing ‘yield’ – how susceptible individuals were to a ‘suggestion’ in a question, and ‘shift’ – changing their mind in response to negative feedback from the questioner (Gudjonsson, 1984). The tests included a simple, short story read out, after which participants were asked to recall all that they could remember about the story, followed by twenty questions, of which fifteen are leading e.g., “Did the woman’s glasses break in the struggle?” when the story did not mention that the woman was actually wearing glasses. Some authors referred to these as misleading questions. There were three subthemes within this main theme as described below:

Subtheme: Suggestibility related to yield

Children and adults

Some of the papers that used the GSS/GSS 2 test compared results with control groups of people without ID. Of the papers that provided raw data for children or adults (Bettenay, Ridley, Henry, & Crane, 2014;; Cardone & Dent, 1996; Clare & Gudjonsson, 1993; Gudjonsson, & Henry, 2003; Gudjonsson & Clare, 1995; Henry & Gudjonsson, 2003; Milne, Clare, & Bull, 2002; White & Willner, 2005; Young, Powell, & Dudgeon, 2003) it appeared that adults with ID were more suggestible to yield than children with ID. The control groups indicated significantly lower ranges of yield for typically developing children and adults, indicating that the presence of an ID in a witness raises the likelihood of that witness being suggestible to leading questions during examination and cross-examination

A heavy reliance on auditory memory is one of the main criticisms of the GSS/GSS 2 test (Cardone & Dent, 1996; Henry & Gudjonsson, 2003; White & Willner, 2005). To compare, White and Willner (2005) created two Alternative Suggestibility Scales (ASS), based on the style of the GSS/GSS 2. However, the story read out was of an actual event which half of the participants had witnessed. The study reported that for those who witnessed the event eighteen months before (ASS), suggestibility was decreased by a third, compared to those who had not witnessed the event. However, for those who witnessed the event and were questioned about it a month later (ASS 2), suggestibility was decreased by two thirds.

This indicates that interviewing adults with ID about an event they have witnessed as soon as possible after the event is highly important in reducing their likelihood of being suggestible to leading questions. However, higher levels of suggestibility following delay may be linked to memory

Recall and suggestibility

A number of the studies reported the less information a participant with ID could recall, the more suggestible they were to leading and misleading questions (Gudjonsson, & Henry, 2003; Henry & Gudjonsson, 1999, 2003; Milne et al., 2002; White & Willner, 2005). Gudjonsson and Henry (2003) found that the children with ID were able to remember more of the story without prompting than the adults. The authors suggest two potential reasons for this: that adults' intellectual abilities deteriorate with age (however the mean age of the adults was only 30.6 years); and that children are in an educational setting and therefore more used to retaining new information.

Mental Age and suggestibility

The papers that included controls of children matched for the mental age (MA) of the participants with ID recorded that, although those with ID were suggestible in relation to yield, they were no more so than the control groups (Bettenay, Ridley, Henry, & Crane, 2014; Gordon & Jens, 1994; Henry & Gudjonsson, 1999, 2003). None of the studies for adults specifically utilized MA matched controls, however, the Collins and Henry (2016) paper matched children and adults to an MA control group and also found no differences.

Level of IQ and suggestibility

All of the papers that compared IQ and suggestibility found that children with mild ID were not any more suggestible than typically developing children of a similar chronological age, whilst children with moderate ID were more suggestible. (Bettenay et al., 2014; Brown, Lewis, Lamb, & Stephens, 2012; Henry & Gudjonsson, 2003; Young et al., 2003). Gudjonsson and Clare (1995) also discovered a link between lower IQ and greater suggestibility among the 66 adults with ID in their study.

Additional influencing factors

Young et al. (2003) tested for other factors that might predict suggestibility for 75 children aged 6-13 including: gender; shyness; and communication ability. No correlation was found between gender and suggestibility or shyness and suggestibility, however some concerns were raised regarding ease of use of the tool testing shyness. Further research would help with clarification. When IQ was removed from the analysis, the participants with greater communication (receptive, expressive and written) skills were found to be less suggestible. Perlman et al. (1994) also highlighted that adults with ID had more difficulty deducing there was a conspiracy in the murder plot in the short video of the crime they had witnessed. This required the capacity to make inferences and therefore suggests the participants with ID had more difficulty in doing this.

Subtheme: Suggestibility related to negative feedback

Adults

There were mixed results regarding ‘shift’ suggestibility (i.e. changing the answer in response to negative feedback from the questioner). Four papers showed that adults with ID were generally not more suggestible to changing their minds following negative feedback (Cardone & Dent, 1996; Clare & Gudjonsson, 1993; Gudjonsson, & Henry, 2003; Milne et al., 2002). However, White and Willner (2005) found that it depended on the assessment tool used and the delay between event and questioning. Those who listened to a verbal story did show signs of shift but those who witnessed a live event one month previously were significantly less likely to be susceptible to negative feedback. It must also be noted that all of these studies involved adults with mild ID. We therefore do not know if adults with moderate ID are more suggestible to shift.

Children

Three papers reported on shift suggestibility for children and found that the participants with moderate ID were more likely to change their mind following negative feedback than the children without ID, whereas those with mild or borderline ID were not (Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999; Young et al., 2003). However, the Henry and Gudjonsson (1999) study did find the children to be more suggestible than both control groups of children matched for mental and chronological age. This study included a mixed group of 11 children with moderate ID and 17 with mild/borderline ID, therefore it is possible that those with moderate ID have inflated the shift scores. The Young et al (2003) study included children with mild ID and found that, when ID was controlled for, age of the child did have a significant impact on shift suggestibility, however this was greater for the typically developing children. Young suggested that this was because shift is more affected by social factors like self-esteem, independence and confidence rather than cognitive abilities and younger children may be easier influenced by adult opinion. Children with ID may develop less of these social factors due to their greater dependence on caregivers.

Subtheme: Question style and suggestibility

Adults

Some studies looked at the influence of question style on suggestibility. Suggestibility has been defined as the extent to which a person accepts information and changes their response when that information is presented within a question (Gudjonsson & Clark, 1986). Milne et al (2002) introduced misleading questions to the interview. All participants were more likely to choose the last option, however there were only four questions of this type. Cardone and Dent (1996) compared general and specific questions for adults but did not find any significant impact on suggestibility. In contrast, Bowles and Sharman (2014) found that the adults with mild ID were most suggestible to misleading information if asked in a ‘presumptive’ (suggestible) style such as a ‘tag’ question, e.g. “Eric helped himself to a Pepsi, didn’t he?” A ‘tag’ question is more of a statement, with the question ‘tagged’ on at the end, to invite confirmation. This study was limited in that only one of each question type was asked. Nevertheless, it did provide interesting information in that the participants rated their confidence to be significantly higher for their responses to the leading questions, suggesting that they based their response on the information suggested rather than their own memory. Perlman et al.’s study introduced three types of leading and misleading questions: those that required

short answer responses, e.g. “What was blocking the doorway of the apartment?”; specific questions requiring yes/no responses, e.g. “Was the stranger wearing a scarf?”; and statement style questions e.g. “The stranger knew where to find the key to the apartment. Yes or no?” (Perlman, Ericson, Esses, & Isaacs, 1994). There was no significant difference between the adults with ID and the control group in response to correct leading specific and statement questions but the misleading questions (containing incorrect information) in specific and statement formats caused the most difficulties, particularly the statement format. As there were 16 questions within each of the three question types this study gives a more robust analysis of question types on suggestibility. Perlman et al. suggest that the statement question style causes greater risk of suggestibility as the statement carries a “stronger assertion of veracity, which DH (ID) participants may find difficult to deny in the face of an authority figure.” (p186)

Children

Henry and Gudjonsson also looked at specific questions with children. The children were not more suggestible than the Chronological Age matched control group in response to correct leading specific questions, however they were more suggestible to the closed yes/no style misleading questions. The example provided of this style was also a ‘tag’ question (Henry & Gudjonsson, 2003).

In 2007 Henry and Gudjonsson again looked at the impact of question styles and found that the children with ID did obtain higher scores on the correctly leading yes/no questions, although, they were even more suggestible to misleading information in specific and yes/no question styles.

All of the examples given in these studies showed questions of short length containing only one subject and using simple language. This reduces the risk that the participants simply agreed with the questioner because they did not fully understand the question and makes it more likely that, although they understood the question, they were suggestible to the implied truth presented in the question by a person in authority

Theme 2: Challenges with memory

Challenges for people with ID being able to remember and recall details of an alleged event was not a focus of this review, as memory is more of an issue in police interviews than cross-examination. Research into memory and ID, however, is relevant to cross-examination. Half of the 24 papers addressed the recall abilities of the participants based on either verbal or visual stories, live events or, as in Kebbell et al (2004) events of personal experience. The majority found that people with ID were able to recall less about the event than those without ID. The studies that included controls with children matched for MA with the children with ID found that they recalled as much as the control group (Brown et al., 2012; Collins & Henry, 2016; Henry & Gudjonsson, 1999, 2003; Michel, Gordon, Ornstein, & Simpson, 2000). This suggests that children with ID can remember events and during cross examination the expectations of what they can be expected to remember about an event should be according to their MA rather than

chronological age. Other studies with children show a link between lower IQ and less recall provided (Bettenay et al., 2014; Brown et al., 2012; Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999, 2003).

A number of papers found that for both children and adults, delay between the event and the interview could have a negative impact on memory (Brown et al., 2012; Gordon & Jens, 1994; Jens, Gordon., & Shaddock, 1990; White & Willner, 2005). Contrary to these findings, Henry and Gudjonsson's study on 47 children with ID found that they recalled more in a second interview (only free recall and not in response to general questions) (Henry & Gudjonsson, 2003). However, as this was only two weeks following the first interview compared with between 6 and 18 months in the other studies mentioned, it is likely that two weeks simply was not long enough to be considered a delay and other factors such as familiarity with the surroundings, greater awareness of the process and being more comfortable with the interviewer perhaps enabled the participants to have greater confidence to recall what they remembered of the event.

Gudjonsson and Henry's study of children and adults found that the 66 children aged 11-12, with ID, had greater recall skills than the 221 adults with ID (Gudjonsson & Henry, 2003). The lower the IQ level of these adults, the less they could remember.

Theme 3: Challenges with accuracy

The papers that addressed accuracy of recall did not find any significant reduction in witness accuracy as a result of ID (Bettenay et al., 2014; Brown et al., 2012; Henry & Gudjonsson, 1999, 2007; Michel et al., 2000; Perlman et al., 1994). However, how the participants were subsequently questioned did have some impact. Bettenay et al., carried out mock direct examination interviews and cross-examinations with 90 children in total (41 with ID). They found that all the children made few errors, confabulations or 'don't know' responses during direct examination but they were all vulnerable to the pressure of questioning that challenges the information they provided, changing their mind on at least half of the answers during cross-examination (Bettenay et al., 2014). This paper only provides limited information on the cross-examination actually carried out, however the few examples of questions provided clearly show leading, mainly tag style questions and negative questions. Kebbell et al. (2004) found that more leading and negative questions were asked during cross-examination compared to examination in chief (the questioning of a witness by the party calling him/her) (Keane et al., 2010)

Two papers examined the accuracy of children's recall for activities they participated in compared with activities they were asked to imagine (Gordon & Jens, 1994; Jens et al., 1990). Children with ID were no less accurate than those without ID.

Brown et al.'s study of children also found specific (e.g. "Which plaster did you choose?") and option posing questions ("Did you or your partner wear the bandage first?") to result in less accurate recall than more open free recall ("Tell me about that

time.”) (Brown et al., 2012). Dent (1986) also found less accuracy in response to specific questions. This is in contrast to the adult studies which found no difference between those with ID and the control group for accurate responses to specific questions (Perlman et al., 1994) or even greater accuracy to specific questions (Cardone & Dent, 1996). This is despite the control group used in the Perlman et al., study containing participants of potentially higher intellectual functioning than would be expected of the general population. However, with non-leading short answer questions e.g. “How did the stranger try to kill the woman?” only 63% of the information participants with ID provided was correct.

One paper offered an alternative style of questioning. Sigelman et al. compared open ended questions, yes-no questions and multiple-choice questions for amount of information provided and degree of accuracy. They found that open ended questions, such as “Most days, how do you get to school?” were not adequate to gain enough information in response. Yes-no questions gained further information but at the expense of accuracy. However, multiple choice questions, particularly when pictures were used, provided 100% responsiveness and did not impair accuracy. The children were shown pictures of, for example, ways of getting to school and informed “Here are some ways people get to school”, and were then asked, “Which way do you get to school most days?” Moreover, they found no systematic bias, when the last option is likely to be chosen, for the verbal or picture multiple choice questions (Sigelman, Winer, & Schoenrock, 1982).

Theme 4: Confabulation

Confabulation occurs when people imagine experiences they believe to be true in response to gaps in their memory (Gudjonsson, 1992). Four papers addressed the likelihood of confabulation for people with ID. It can be measured in two parts via the GSS/GSS 2, distortion (change in details) and fabrication (entirely novel element)(Gudjonsson & Clare, 1995). Two papers found that people with ID were prone to confabulation (Clare & Gudjonsson, 1993; Perlman et al., 1994) and two found that they were not (Bettenay et al., 2014; Gudjonsson & Clare, 1995). A link between poor memory and likelihood of confabulation was found by Clare and Gudjonsson in the 1993 paper for adults with ID (Clare & Gudjonsson, 1993) however, in 1995 the same authors found no link between confabulation and IQ, memory, suggestibility or acquiescence (Gudjonsson & Clare, 1995). The complexity of measuring confabulation was acknowledged by Gudjonsson and Clare in their 1995 paper and the likelihood of other influencing factors coming into play, such as personality.

Theme 5: Acquiescence

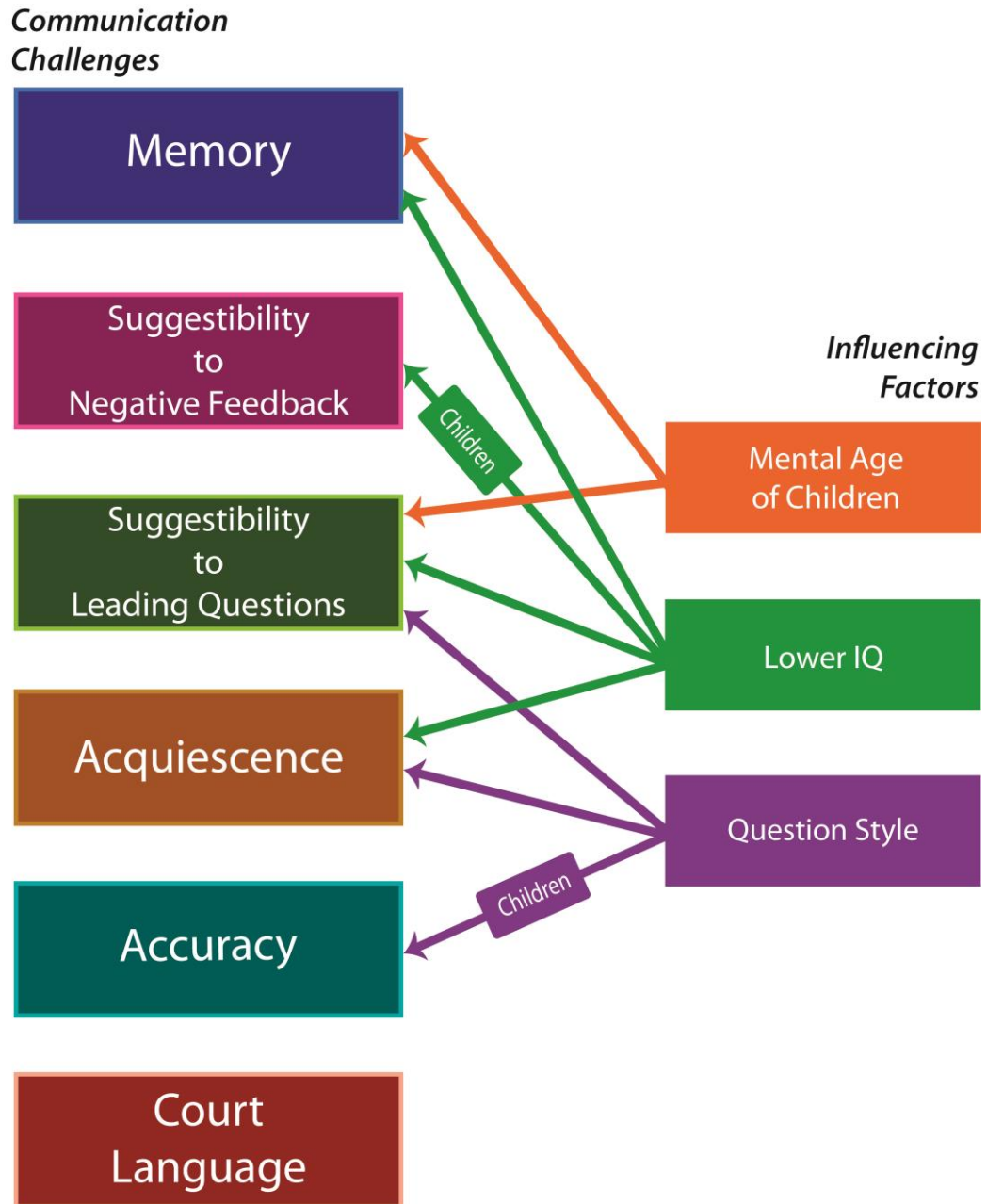
All of the four papers that reported on acquiescence found that adults and children with ID were more prone to acquiescence when undergoing questioning during an interview (Clare & Gudjonsson, 1993; Gudjonsson, 1990; Sigelman, Spahhel, Schoenrock, 1981;

Sigelman et al., 1982). Acquiescence occurs when a person answers a question in the affirmative, regardless of the content of the question (Gudjonsson, 1990). Both the Sigelman et al. papers found that question style impacted acquiescence and people with ID were more susceptible to acquiescence following a question requiring a yes/no answer. Gudjonsson (1990) suggested that there were also other influencing factors, such as personality, temperament and coping skills. All papers also found the lower the IQ the higher the rate of acquiescence. Gudjonsson and Clare (1995) also examined acquiescence but only for any correlation with confabulation, of which none was found.

Theme 6: Court Language

Only one paper (Ericson & Perlman, 2001) examined challenges for people with ID in understanding the language used in court. The 40 adults with mild to moderate ID could only understand 8 out of the 34 terms tested (23.5%) in comparison to 33/34 for the control group. The 34 legal terms tested were commonly used terms within the court system. The participants were asked if they knew the term and, if so, were then asked a probing question to gather further evidence of understanding. In addition, 40% of those with an ID had come into contact with the courts before, either as a witness, victim or defendant. This compares with only 12.5% of the control group. The authors provided a list of the key terms not understood by at least 40% of the participants with ID which includes terms regularly used and of great significance and importance to understand, such as, guilty, prosecute, trial, charges, and evidence

Figure 2, Communication challenges for witnesses with ID and influencing factors.



Discussion of findings and relevance to cross-examination

The systematic nature of this review captured much more than what could have been achieved with a non-systematic review. It has also reduced the risk of researcher-bias (Gough, Oliver, & Thomas, 2012), that is a subjective and personal view of the literature being taken by the authors, as systematic reviews allow for more ‘observational research’ (Wormald & Evans, 2018). The main communication challenges for people with ID during cross-examination, as highlighted by the papers in this systematic review, are visually presented in Figure 2. The extent of impact of these challenges can be influenced by the mental age of the child, the level of IQ and the style in which questions are asked. Findings showed that the more severe the cognitive impairment, the more likely a child witness with ID will be susceptible to: agreeing with suggestions placed in a question from an advocate putting their case to the witness (Bettenay et al., 2014; Gudjonsson & Henry, 2003; Henry & Gudjonsson, 2003; Young et al., 2003); changing their mind following negative feedback from the advocate (Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999; Young et al., 2003); and to acquiescing with questions asked (Sigelman, C., Spahhel, C., Schoenrock, 1981; Sigelman et al., 1982). Children with milder ID have greater resistance and are not any more suggestible to negative feedback than typically developing children (Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999; Young et al., 2003) but they are more suggestible to agreeing with leading and misleading questions (Bettenay et al., 2014; Brown et al., 2012; Henry & Gudjonsson, 2003; Young et al., 2003). Therefore, introducing new information or making alternative suggestions to the child about what happened during an event may lead to inaccuracies in that the child will simply agree with the suggestion being made rather than what they actually recall of the event.

Any delay between an alleged event and the police interview may have a negative impact on the amount of information a witness with ID will remember (Brown et al., 2012; Gordon & Jens, 1994; Jens et al., 1990; White & Willner, 2005). Therefore, a long delay between the alleged event, interview and cross-examination in court may negatively impact on their memory and potentially cause greater suggestibility during cross-examination. In England and Wales the average time for a case to reach completion in the crown courts is 51 weeks⁹, this is even longer in Northern Ireland with an average of 73.6 weeks (1.4 years). For 12% of cases between 2011 and 2016 it actually took 2.7 years (Donnelly, 2018). Adults alleging crimes committed during their childhood have even greater challenges of delay to overcome in what they remember and how suggestible they are to questions and question styles impacting on accuracy of their testimony. Fast tracking cases that involve witnesses with ID would help limit the negative impact of delay for these vulnerable witnesses. Alternatively, rolling out of pre-recorded cross-examination across courts may be a viable option. Findings of a pilot in 2013 in three crown courts in England show that although it took a similar length of time for cases in the pilot to reach trial it took half the time for the witnesses to be cross-examined (Baverstock, 2016).

⁹ <http://open.justice.gov.uk/courts/criminal-cases/>

It has been highlighted in this review that hearing a verbal story of an event is much less effective on memory and reducing suggestibility than actually witnessing an event (Cardone & Dent, 1996; White & Willner, 2005). For memory refreshing prior to a hearing defendants have to read through pages of a transcript of their version of events, taken from the investigative interview, or rely on others to read out. Due to more limited cognitive abilities of having an ID this will be more challenging for those with an ID. Although victims and non-defendant witnesses with ID do not view a DVD of the event in question, they do have the benefit of a visual aid to assist memory, as the visually recorded ABE interview (video recorded investigative interview used with vulnerable victims and witnesses) shows their body language and perhaps reminds of emotions they experienced when recalling the event. This means that vulnerable victims and witnesses may benefit more from memory refreshing of their testimony than vulnerable defendants.

People with ID are less likely to understand legal language (Ericson & Perlman, 2001). Familiarity with the court setting does not guarantee understanding. This raises concern particularly for defendants in being able to follow and understand what is happening in their trial and to be able to raise important points regarding statements made. If a person with ID does not have a good understanding of the language that is being used and important key terms of the justice system, could it be assumed that they also have limited understanding of the process, the importance of the evidence they give and of their responses to cross-examination? An understanding of the term 'guilty' is surely of great importance for a defendant to be able to accurately give his/her plea. Research by Jacobson et al. (2015) with defendants, victims and witnesses without an ID would confirm this. Observations of Crown Court cases highlight examples of a lack of understanding of the fundamental aspects of the case by victims and defendants (Jacobson, Hunter, & Kirby, 2015). As part of this same research victims, witnesses, defendants and professionals are interviewed and language (verbal and non-verbal) is highlighted as an influencing factor in creating a 'them and us' culture within the court setting, where court users and professionals are 'poles apart' socially and educationally. The authors claim that a defendant's understanding is not limited to specific questions asked but also to the wider understanding of court proceedings, legal language used throughout and any sentence given. Research by Gibbs, surveying the opinions of professionals on the use of video hearings, further highlights communication challenges for defendants by suggesting that video hearings reduce their understanding of and participation in the court process (Gibbs, 2017). Although, as Gibbs claims, there has been no research into the use of video hearings with defendants with disabilities so the extent of this for defendants with ID is unknown. A search for similar research documents to Ericson & Perlman, 2001, on legal language and ID, was carried out by the author but none were found. Further research is required.

Question format can have significant impact on suggestibility, accuracy and acquiescence for both adults and children. Although children and adults with ID can give accurate accounts of an event, particularly during free recall, how they are subsequently questioned on the event can greatly influence the accuracy (Bettenay et al., 2014; Brown et al., 2012; Dent, 1986; Gordon & Jens, 1994; Jens et al., 1990). This poses challenges for cross-examination as the purpose is for the witness to be questioned on the information provided in their examination-in-chief, but a witness with ID may simply

agree with alternative suggestions put to them or agree if accused of being mistaken or lying about details of an event. Statements and closed style questions requiring yes/no answers, particularly ‘tag’ questions result in higher levels of suggestibility (Bowles & Sharman, 2014b; Henry & Gudjonsson, 2003, 2007; Perlman et al., 1994). Yet the Kebbell et al. (2004) paper showed that closed questions were the most common question type used during cross-examination. Research by Wheatcroft et al., with 60 adult witnesses to look at the influence of question styles on eyewitness confidence and accuracy used question styles taken from several court transcripts. An examination of these transcripts found that the advocates tended to phrase the majority of questions so that a ‘yes’ response was encouraged (Wheatcroft et al., 2004). Sigelman et al’s (1981) research found that witnesses with ID who are likely to acquiesce will do so in response to yes/no answer type questions. More up to date research is required to see if this is common practice in courts today for witnesses with ID particularly following the implementation of special measures, Court of Appeal rulings and toolkits for advocates on The Advocate’s Gateway¹⁰. Susceptibility to acquiescence could have grave consequences for a person with ID during cross-examination. If this weakness is not identified and made known to the court a question such as “You’d be likely to steal someone’s watch if you found it Mr X, isn’t that right?” could be answered in the affirmative, not necessarily because the witness agrees that he would steal a watch, but because he has an intellectual disability and is acquiescing with the positive response suggested in the question.

Multiple choice questions and pictures may provide further recall without negatively impacting accuracy (Sigelman et al., 1982) but more research is needed to confirm these findings and to explore how they could be used effectively during cross-examination. Pictures are regarded as a visual aid and there is very little research into how these can be used within the criminal justice system. The main source of guidance on the use of any communication aid in court is from Toolkit 14 of The Advocates Gateway¹¹ as there is no ABE equivalent guidance (Mattison, 2016).

Papers in this review conclude that children with ID should be communicated with according to their mental age rather than chronological age (Bettenay et al., 2014; Gordon & Jens, 1994; Henry & Gudjonsson, 1999, 2003), but caution should be applied to this conclusion. People with ID are not a homogeneous group, people are individuals. In addition, ID can have different causes (Tassé, 2013) and be linked to other medical, social and behavioural conditions (American Psychiatric Association, 2013) which can influence communication skills. It can therefore not be assumed that every older child with a mental age of 7 will have the same communication abilities and needs as a typically developed 7 year old. Research has not yet addressed whether mental age is a good predictor of performance during cross-examination for adults. Although mental age is used in research as a comparison variable with adults (Nijman, Scheirs, Prinsen, Abbink, & Blok, 2010) and in particular in research with adults with Down Syndrome (Arstein-Kerslake, 2017; Jacola et al., 2014; Ringenbach & Balp-Riera, 2006; Roberts &

¹⁰ www.theadvocatesgateway.org

¹¹ <https://www.theadvocatesgateway.org/images/toolkits/14-using-communication-aids-in-the-criminal-justice-system-2015.pdf>

Richmond, 2018), comparing adults to children does not fit with the concept of normalisation. Normalisation inspired by Nirje (1969) and developed by Wolfensberger (1972) basically means to afford people with disabilities the right to have the same opportunities, access to services and legal rights as anyone else in society (Gone, Hatton, & Cane, 2012). Social role valorisation claims that how people are treated depends extensively on the roles they occupy in society, those with roles that have greater value are treated better than those in roles of lower value and people with ID are greatly devalued by society (Wolfensberger, 2000). Childish images and the ‘child role voice’ used by others when communicating with adults with ID are examples given by Wolfensberger of how society fuels this devaluation.

Despite this, an adult with an ID may be at even more risk than a child of agreeing with the force of an alternative sequence of events being suggested to them. Being a victim, eye witness or accused of a crime, going through a trial process and ultimately being cross-examined on your account of events can hardly be considered a ‘normal’ and every day process of events. It is not difficult to imagine that it may be challenging for an advocate to effectively adjust questioning accordingly when faced with a fifty year old defendant who can engage in verbal conversation, lives independently and has a family. Having information on the defendant’s mental age, e.g. as that of an 8 year old, may assist the advocate. Although, in the absence of a Registered Intermediary assessment¹² (as is possible in England and Wales) information about the person does not give specific information on communicating with that person and assumes that the advocate has skills to effectively communicate with an 8 year old child. This complexity of communicating with vulnerable witnesses has led to demand for specialist training for advocates to offer key general principles to adhere to.

Specialist training on vulnerability, through the Inns of Court College of Advocacy (ICCA) is now available for advocates in England and Wales and will become mandatory for those working in sexual offence cases involving vulnerable witnesses.¹³ The focus is for advocates to understand general key principles, such as: keep to chronological order; do not make statements; and do not ask leading questions or tag questions. A recent paper by academics, from a range of disciplines, reviewing the training has criticised this emphasis on 20 key principles and claims that for all but two of the principles, no ‘tag’ or leading questions, there is a lack of empirical evidence from research to show they apply to vulnerable witnesses only. The results of this review would echo this criticism, however there is evidence from the Perlman et al. (1994) paper that statement style questions may also increase the risk of suggestibility. In addition, a witness with mild ID who recalls good detail of the event may not have difficulty with tag and leading questions. A lack of empirical evidence in general into advocacy, and in particular for vulnerable witnesses, is also highlighted in the Cooper et al., review (Cooper et al., 2018).

¹² For information on Registered Intermediary assessments see (Cooper & Mattison, 2017)

¹³ www.icca.ac.uk/advocacy-the-vulnerable (accessed 27 August 2018)

Limitations of findings in the review and further research

Research into capacity or competency to stand trial was excluded in this review on the basis that competency is assumed by trial stage. However, this exclusion may have limited findings. Competency papers that had been excluded at abstract/full paper stage were re-examined. Differing results were found in two papers: IQ did not impact on acquiescence; IQ and memory were not effective estimates of suggestibility (Gudjonsson, Murphy, & Clare, 2000); adults with ID were suggestible to changing their mind following negative feedback (Everington & Fulero, 1999). Gudjonsson et al. (2000) suggest that a simpler version of the acquiescence test used may explain some differing results and Everington and Fulero (1999) suggest a difference in race between the interviewer and participants as a reason for suggestibility to negative feedback. In both papers participants were actual witnesses (Gudjonsson et al., 2000) and defendants (Everington & Fulero, 1999), therefore other factors relating to the court process, such as stress and anxiety, may have impacted on the results in these studies. This further highlights the need for research on communication and cross-examination with actual trial cases.

We do not know the role any co-existing conditions played in the results of papers in this review. Only two papers (Brown et al., 2012; Ericson & Perlman, 2001) purposely excluded people with other conditions that may have influenced findings, such as: autism; Attention Deficit Disorders; diabetes; hearing or visual impairments (also considered in Collins and Henry, 2016); and mental health diagnosis. In their review of papers on eyewitness testimony for people with autism, Maras and Bowler record the specific difficulties associated with autism regarding memory, personally experienced events, processing information, and processing emotional stimuli, that would impact on their performance during cross-examination (Maras & Bowler, 2014). However, at the time of their review all research into autism and eyewitness testimony had only been with participants with 'high-functioning autism', that is with no ID. A scoping exercise of literature did not find any new papers in this area that included and examined both autism and intellectual disability (Searches for 'eyewitness testimony' and autism or ASD or autistic spectrum disorder in EBSCO academic search complete, criminal justice extracts, PsychARTICLES, PsychINFO, and SCOPUS).

The papers in this review have not taken into consideration factors specifically associated with cross-examination and the impact these may have on communication for people with ID. Factors such as: delay on the day of cross-examination; time of day of questioning; length of cross-examination; rapport with the questioner; nature of the alleged crime; complexity of sentence structures used; complexity of language used; pace of questioning; physical presence of the advocate; characteristics and communication style of the advocate. The majority of interviewers in the papers in this review were the authors or research assistants, only one paper used trainee barristers (Bettenay et al., 2014). None of these interviewers will have come close to questioning in a manner and style familiar to skilled and experienced advocates representing their client; to direct the interview, lead the witness, pick up and respond to the witness' non-verbal language

presented such as hesitant pauses or change in eye contact. There is a need for research into the impact of the cross-examination process on communication for people with ID.

Conclusion

There is a dearth of research into actual court cases and the lived experiences of the cross-examination process and communication challenges faced by people with ID. This systematic review, which to our knowledge is the first of its kind, has also highlighted the need for further research in some key areas: confabulation; mental age of adults and performance indication; using multiple-choice questions with and without pictures for enhanced recall and accuracy; witness understanding of court language; and research that takes into consideration other factors beyond IQ levels. Intellectual disabilities are diverse and complex and any research into the communication challenges people with ID face during cross-examination can only give a generalised overview. Witnesses are all individualistic therefore any intervention to support and enhance communication during cross-examination needs to be person-centred to the individual witness. As stated by the Cooper et al., review of the advocates training programme “Advice to advocates should capture the importance of research evidence-based, contextual questioning and the need for flexible adaptation to suit the needs of each vulnerable individual.” (Cooper et al., 2018, p.12). We hope that our review will inform both policy and practice in this area. Additionally, more evidence-based research into communication for people with ID during cross-examination is required to fully inform advocates and fully open the criminal justice system to these vulnerable witnesses. The authors’ pending studies will attempt to fill some of this deficit.

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