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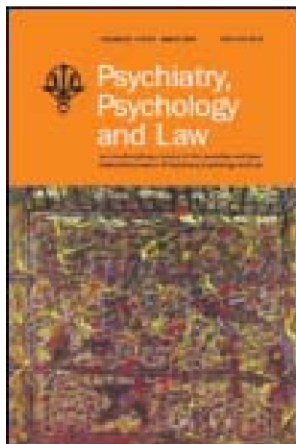
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A Review of the Impact of Different Types of Leading Interview Questions on Child and Adult Witnesses with Intellectual Disabilities

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Children and adults with intellectual disabilities have traditionally been considered poor witnesses because they are easily misled and produce less accurate information in interviews when compared with individuals without intellectual disabilities. However, witnesses' levels of accuracy depend on the types of questions that they are asked, such as whether they are open or closed and whether they contain misleading information. In the current systematic review, we examined the literature investigating the different types of misleading questions commonly used in interviews, and their influence on the memories of adults and children with and without an intellectual disability. Thirteen articles that met inclusion criteria were reviewed. It was found that, compared with other question types, open and closed questions that presumed certain information to be true elicited the greatest number of errors in children and adults with intellectual disabilities compared with other question types. These findings reinforce the notion that the onus is on interviewers – particularly when interviewing vulnerable witnesses – to avoid leading questions that presume information that may not be true.

Key words: eyewitness testimony; intellectual disability; leading questions.

One in five Australians has a disability, with 1% of these being intellectual disabilities (ID) (Australian Bureau of Statistics, 2009). While this only makes up a small proportion of the total population, individuals with ID constitute a high proportion of victims of sexual, physical and verbal abuse (Brownlie, Jabbar, Beitchman, Vida, & Atkinson, 2007; Brownridge, 2006; Murray & Powell 2008). In Australia, adults with ID – when compared with the general adult population – are more than twice as likely to be victims of personal crimes and nearly 11 times more likely to be the victims of sexual assault in their lifetime (C. Wilson & Brewer, 1992). Even though the rates of abuse are higher, adults with ID are less likely to report such abuse (Brown,

Stein, & Turk, 1995). Police are often dismissive of reported allegations as it is commonly thought that those with an ID are easily influenced and make poor witnesses (Stobbs & Kebbell, 2003; Victoria Law Reform Commission, 2003, 2004). The current review systematically examined the literature regarding the impact of different types of leading questions and their influence on the memories of adults and children with ID.

Leading Questions

The type of questions asked during an investigative interview can influence a person's ability to report a crime accurately. For example, research has consistently demonstrated that

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people's memories of an event are less accurate when they are asked leading questions containing misinformation than questions containing no misinformation (see Loftus, 2005, for a review). For this purpose, leading questions are those that introduce new information that has not already been mentioned by the witness. These questions may use a *closed* structure; that is, they dictate the response required or provide limited response options (e.g., "Did he open the door?", "Was the car red or blue?") or may use an *open* structure; that is, they do not dictate the response required (e.g., "Tell me about the car" when no car had been mentioned previously).

Loftus and Palmer (1974) were among the first to demonstrate that the specific words used in post-event questioning affected people's memories of a witnessed event. Labelled the misinformation effect, numerous studies over the last 30 years have identified how exposure to misleading information presented after an event can distort witnesses' memories, even to the point of remembering details that were never witnessed (Frenda, Nichols, & Loftus, 2011; Loftus, 2005). The typical procedure in a misinformation experiment begins with the participant witnessing an event, such as watching a film of a car accident. This event is followed by a biasing interview in which new information, some of which is misleading, is introduced to the participant. Finally, the participant answers questions about the initial event. People typically report that information provided in the biasing interview occurred during the initial event; therefore, they demonstrate the "misinformation effect" (Powell, Garry, & Brewer, 2009). Two recent literature reviews describe a number of factors that influence the misinformation effect (Frenda et al., 2011; Loftus, 2005). For example, people who score highly on intelligence tests, have greater working memory or have greater perceptual abilities are better able to resist misleading information. Those with more limited cognitive resources, such as individuals with

ID, are more vulnerable to the distorting effects of misinformation.

Currently, there are two explanations for why the misinformation effect occurs: misattribution and suggestibility (Saunders & MacLeod, 2002). Misattribution, according to the Source Monitoring Framework, occurs when people mistake the information that they encountered after the event with the information that they encountered during the event (Johnson, Hashtroudi, & Lindsay, 1993; Lindsay, 2008). Suggestibility refers to how susceptible an individual is to the influence of other people's statements (Beail, 2002). The Gudjonsson Suggestibility Scales (GSS; Gudjonsson, 1984, 1987) were developed to assess this susceptibility to leading questions and negative feedback. As a measure of interrogative suggestibility, the scales have often been used to determine the ability of a witness to make reliable statements (Beail, 2002). For a witness to be considered credible, they must be able to recall a reliable amount of information about an event that has occurred (Powell et al., 2009). Individuals with ID have typically been viewed as poor witnesses as they are prone to being misled and provide less complete testimonies compared with the individuals without ID (Agnew & Powell, 2004; Bull, 2010; Stobbs & Kebbell, 2003).

Enhancing Recall

While adults and children with an ID may not perform as well in interview situations as individuals without ID, there is mounting evidence that individuals with ID can produce reliable information when questioned using best-practice techniques (Bull, 2010). These best-practice techniques include asking mainly open-ended questions, not interrupting the interviewee, and establishing rapport with the interviewee (Orbach, Hershkowitz, Lamb, Esplin, & Horowitz, 2000; J.C. Wilson & Powell, 2001). However, research suggests that Australian police officers do not always use best-practice techniques (Guadagno &

Powell, 2009; Guadagno, Powell, & Wright, 2006; Stacey, 1999). Indeed, an examination of police officers' interview techniques revealed that 30% of the information elicited from interviewees was incorrect, largely due to the police interviewer's use of suggestive and multiple choice questions (Stacey, 1999). Yet a recent study found that police specially trained to interview individuals with an ID rarely used leading questions (Agnew, Powell, & Snow, 2006). Therefore, the onus appears to be on the interviewer to use correct question structures – that is, those that are not leading – to get the most accurate information from individuals with ID.

One interview technique that may increase the accuracy of children's and adults' testimony is the cognitive interview (Bull, 2010; Milne & Bull, 2001). This interview technique is used by police throughout Australia, particularly when interviewing vulnerable individuals, such as those with ID (Bartels, 2011). The cognitive interview follows best-practice guidelines by starting the interview with a free recall account, in which the witness is free to describe the event in his or her own words. After this account, specific and leading questions are only used when information is not produced during free recall (Milne & Bull, 2001).

The cognitive interview employs a number of techniques to improve memory retrieval and communication, aiming to increase the quality and quantity of information being recalled (Milne & Bull, 2001). More specifically, it uses four memory retrieval strategies that encourage a witness to: (1) mentally reinstate the personal and environmental context that existed at the time of the event, (2) recall every detail regardless of how important they think it might be, (3) recall the events in a variety of orders, and (4) report events from different perspectives (Maras & Bowler, 2010). These techniques are based on the theoretical frameworks of how memory typically operates, in that the retrieval of an event can be enhanced if the context experienced at recall

matches the experience during encoding (Fisher & Geiselman, 1992), and that there are multiple retrieval routes to memories as they are stored as interconnected nodes (Tulving, 1974).

Although the cognitive interview was introduced to police in Australia in 2000, interviewers are not always properly trained or are not always aware of the need for caution when interviewing witnesses with ID (Dixon & Travis, 2007). Individuals with ID tend to rely on external cues to aid recall, meaning that greater care is needed to avoid influencing their recall with careless interview techniques (Bull, 1995). Bearing in mind that one of the main aspects of the cognitive interview is its use of non-biasing retrieval techniques, insufficient training can lead to the use of improper wording of questions which can influence the memory of witnesses (Loftus, Miller, & Burns, 1978; Loftus & Palmer, 1974; Loftus & Zanni, 1975).

Leading Question Structure

Currently, limited research has examined the influence of question structure on witnesses' memories. Two studies with children have demonstrated that the structure of the leading questions influence children's susceptibility (Agnew & Powell, 2004; Gee, Gregory, & Pipe, 1999). In one study, 9-13 year old typically developing children were interviewed about a visit that they had made to a science centre (Gee et al., 1999). Some of the questions contained misleading information; they were asked using a closed or open structure. The results showed that children were more misled by the closed questions than the open ones. It is possible that they found it easier to choose one of the two misleading options provided by the closed questions ("Was the door blue or red?") than to generate a response to answer the open questions ("Tell me about the red door").

More recently, children aged 9–12 years with either a mild or moderate ID and

children without ID recalled a staged magic show (Agnew & Powell, 2004). Children were interviewed about the show three days later. Some of the questions contained misleading information. They were given specific cued recall questions (e.g., “What was the magician’s name?”) and forced-choice questions with three options (e.g., “Was the magician’s favourite lollipop banana, orange or raspberry?”). Children were interviewed a second time one day later. Overall, during this second interview, children with mild and moderate ID gave less clear and complete descriptions of the magic show than children without ID. Children with ID also gave less accurate answers in response to specific questions. Interestingly, children with ID were *less* likely to report the false information from the misleading questions that they had heard the day before than children without ID. It is possible that children with ID were less likely to encode these false suggestions – due to their poorer memories – and later repeat them than children without ID.

To date, only one experiment has examined the influence of leading question structure on adults’ memories for witnessed events (Sharman & Powell, 2012). These leading questions varied in their specificity, presumptive knowledge and structure. Although closed questions (e.g., “Did the robber hold up the bank with a shotgun?”) did not produce a misinformation effect, closed presumptive questions (e.g., “The robber held up the bank with a shotgun, didn’t he?”) showed a weak misinformation effect. Greater misinformation effects were demonstrated for closed specific (e.g., “Did the man have a *shotgun that had a black barrel and a dark brown stock?*”) and open presumptive (e.g., “Tell me about the shotgun that the robber used to hold up the bank?”) questions. This finding was particularly interesting given that leading open questions are often viewed by professionals as being fairly harmless (Sharman & Powell, 2012).

The Current Review

Considering that children and adults with ID are more likely than those without ID to be the victims of some form of assault, they are potentially more likely to take part in an interview process at some point in their lifetime. Given the impact of different types of leading questions on adults’ memory, it is important to determine whether the same effects are seen for children and adults with an ID. The aim of the current review was to systematically examine the literature relating to adults and children with an ID and the impact of different types of leading questions on their memories for the witnessed event.

Method

Relevant studies were identified using search strategies conducted for the PsycARTICLES, PsycBOOKS, Psychology and Behavioural Sciences Collection, PsycEXTRA and PsycINFO databases for between 1980 and 2012. The search strategy included the terms “misinformation/suggestibility/interview” and “intellectual disability” and related terms. More than 6000 abstracts were identified through the search. Abstracts that did not fit the study criteria were excluded, leaving approximately 70 papers that were retrieved for comparison against the inclusion criteria. Other studies referenced in these papers were also retrieved.

In order for studies to be considered for this review, they had to: (1) be in peer-reviewed English language publications; (2) use children or adults with mild ID as participants; (3) involve at least one interview/questioning period; (4) be relevant to either question types, misinformation, suggestibility or interviewing techniques; and (5) compare the effects of at least one question type to another.

A total of 13 papers met the above criteria. Each article was examined for information pertaining to sample size, participant age

and sex, measures of ID, question/interview structure and time variables. Only articles that examined sample populations of mild ID were selected as they account for between 75 and 90% of all individuals with an intellectual impairment, making them highly representative of this population (Ramey & Finkelstein, 1981). These individuals were defined as having IQ levels of 50–55 to approximately 75 or had been recruited from centres or schools for individuals with mild intellectual disabilities.

The type of questions used in the interview of each study was coded using the following categories. *Free recall* and *free narrative* questions referred to those in which participants were simply asked to report what happened. *Cued recall* referred to questions in which participants were asked about particular details of the event. *Leading questions* were those that introduced new information that had not already been reported by the witness. *Misleading questions* contained new information that was included to deliberately try to change a witness's memory for the original event (e.g., asking about a red door when the door had been blue). *Open questions* did not dictate the response required (e.g., "Tell me more about the car"; "What happened next?"). *Closed questions* required a one or two word response that was dictated by the interviewer (e.g., "What colour was the car?"). *Forced-choice questions* provided participants with options, including yes/no questions (e.g., "Was the car red, blue or yellow?"; "Did the man have a gun?"). *Specific questions* were those that encouraged participants to think about very specific details of the information being asked about (e.g., "Was the car a red Ferrari with black trim and silver detail?"). *Presumptive questions* encouraged witnesses to comply with presumed information (e.g., "The colour of the car was black, wasn't it?"). Questions could also be combinations of the above categories; for example, open specific questions (e.g., "Tell me about the red Ferrari with black trim and silver detail") and closed specific

questions (e.g., "Was the car a red Ferrari with black trim and silver detail?").

Participants' responses to these questions were one of three types. Responses could be *accurate* (information about the original witnessed event was reported), *inaccurate* (the misleading information was reported or agreed with) or *confabulated* (an incorrect response that did not relate to the event or the misleading information). Table 1 includes a summary of the papers included in the review. More specifically, the table includes information about the number of participants, their ages and their IQ scores.

Results

Table 2 contains the basic findings for the studies that met the criteria, showing the effect of question type for ID groups compared with normal IQ groups where possible. The main findings are reviewed in five sections below.

Adults with ID and Question Type

Table 2 shows the three studies that specifically tested the impact of different question type on the memories of adults with ID (Cardone & Dent, 1996; Perlman, Ericson, Esses, & Isaacs, 1994; Ternes & Yuille, 2008). For free recall and open questions, adults with ID reported fewer correct details than the control group without ID; there was no difference in the number of incorrect details that they reported (Perlman et al., 1994; Ternes & Yuille, 2008). Adults with ID were more susceptible to misleading information contained in open specific, closed and closed presumptive questions than control participants. Overall, these studies suggest that adults with ID tend to provide less accurate answers compared with those without ID across all question types. Misleading closed presumptive questions produced the highest amount of misinformation compared with other misleading questions used.

Table 1. Sample size, age, level of ID for the studies reviewed.

Study	Groups (<i>n</i>), mean IQ	Age (years)	IQ measure/ indicator of ID
Studies with children			
Agnew and Powell (2004)	Mild ID (58) = 63	9–12	WASI
	Mild CAM (48) = —	9–12	
	Mild MAM (34) = —	$M = 7, SD = 1$	
Gordon et al. (1994)	Mild ID (23) = 57	$M = 10.3$	PPVT-R
	Mild MAM (23) = 96	$M = 6.5$	
Gudjonsson and Henry (2003)	Mild ID (38) = 63	11–12	BAS-II, WISC-III
	CAM (44) = 103		
Henry and Gudjonsson (2003)	Mild ID (30) = 66	11–12	BAS-II
	CAM (25) = 105	11–12	
	Mild MAM (14) = 106	5–8	
Henry and Gudjonsson (2007)	Mild ID (18) = 70	8–9	BAS-II
	verbal, 56 non-verbal		
	Mild ID (16) = 59	12	
	verbal, 56 non-verbal		
	CAM (20) = 102	8–9	
Milne and Bull (1996)	verbal, 103 non-verbal		Children from schools for mild learning disabilities
	CAM (20) = 98 verbal, 105 non-verbal	12	
	Mild ID (75) = —	7–10	
Robinson and McGuire (2005)	Mild ID (20) = 80	7–9	BPVS, CPM
	CAM (20) = 101	7–9	
Studies with adults			
Cardone and Dent (1996)	Mild ID (60) = 60	$M = 37, SD = 9$	WAIS-R
Gudjonsson and Clare (1995)	Mild ID (66) = —	$M = 32, SD = 10$	WAIS-R
	CAM (79) = —		
Milne et al. (1999)	Mild ID (47) = —	19–59	Adults from day- centres for people with ID
	CAM (38) = —	19–62	
Milne et al. (2002)	Mild ID (47) = —	19–59	Adults from day- centres for people with ID
	CAM (58) = —	19–62	
Perlman et al. (1994)	Mild ID (30) = 55–80	17–26	Adults from a centre for people with ID
	CAM (30) = —		
Ternes and Yuille (2008)	Mild ID (22) = —	$M = 46$	Adults recruited from the DDAV
	CAM (23) = —	$M = 21$	

Notes: CAM, chronological age match; MAM, mental age match; —, not reported in paper. WASI, Weschler Abbreviated Scale of Intelligence (Weschler, 1999); ID, intellectual disability; BAS-II, British Ability Scales, 2nd edn (Elliot, 1996); WISC-III, Weschler Intelligence Scale for Children, 3rd edn (Weschler, 1991); BPVS, British Picture Vocabulary Scale (Dunn, Dunn, Whetton, & Pintilie, 1982); CPM, Coloured Progressive Matrices (Raven, 1976); PPVT-R, Peabody Picture Vocabulary Test (Dunn & Dunn, 1981); WAIS-R, Weschler (1981); DDAV, Developmental Disabilities Association of Vancouver.

Table 2. Results of the studies included in the review.

Study	Event; interview	Question types	Results
Perlman et al. (1994)	Film; immediate interview	Adults with ID and question type	
		Free recall	ID fewer correct details; no diff in incorrect details
		Cued non-leading	ID fewer correct details; no diff in incorrect details
		Closed leading	ID fewer correct details; no diff in incorrect details
		Closed Y/N correctly leading	ID more misled
Termes and Yuille (2008)	Participated; interviewed 5–17 days later	Closed Y/N correctly leading	No difference between groups
		Closed Y/N misleading	ID more misled
		Presumptive Y/N correctly leading	No difference between groups
		Presumptive Y/N misleading	ID more misled
		Free recall	ID fewer details; no difference in accuracy
Cardone and Dent (1996)	Audio story vs. story with pictures; immediate interview	Cued recall	ID fewer details; no difference in accuracy
		Closed Y/N misleading	ID fewer details; no difference in accuracy
		Presumptive Y/N misleading	No difference between groups
		Free Recall	ID more misled
		General questions	Participants reported more information about the story when questioned with specific questions than in free recall. They also reported more when the story was accompanied by pictures. Participants more misled when heard story only than when also got pictures. No effect for type of initial recall.
Agnew and Powell (2004)	Participated; interviewed 3 days later; final interview next day	Children with ID and question type	
		Free recall	No difference between groups
		Specific cued recall	ID fewer accurate details
		Forced choice	ID fewer accurate details
		Free recall and specific cued recall misleading	ID fewer accurate details
Henry and Gudjonsson (2003)	Staged event; interviewed 1 and 15 days later	Free recall and open questions	ID fewer details; no difference in accuracy between groups
		Open non-leading	ID fewer accurate details
		Open misleading	No difference between groups
		Closed Y/N correctly leading	No difference between groups
		Closed Y/N misleading	ID fewer accurate details

(continued)

Table 2. (Continued)

Study	Event; interview	Question types	Results
Henry and Gudjonsson (2007)	Film; immediate interview	Free recall Cued recall Closed non-leading Closed misleading Presumptive Y/N non-leading Presumptive Y/N misleading	ID fewer correct details ID fewer correct details ID fewer correct details ID more misled ID correctly agreed more often ID more misled
Gordon et al. (1994)	Performing and imagining actions; immediate interview; final interview 6 weeks later	Free recall and open questions Closed Y/N non-leading Closed Y/N misleading Presumptive Y/N misleading	No difference between groups ID fewer accurate details No difference between groups No difference between groups
	Adults with ID and the Gudjonsson Suggestibility Scale		
Gudjonsson and Henry (2003)	Listened to story; immediate interview	Free recall Closed Y/N non-leading Closed Y/N misleading	ID fewer accurate details ID fewer accurate details ID more misled
Gudjonsson and Clare (1995)	Listened to story; immediate interview	Free recall Closed Y/N non-leading Closed Y/N misleading	ID fewer accurate details ID fewer accurate details No difference between groups
Milne et al. (2002)	Film; 1 day later	Free recall Closed Y/N non-leading Forced choice Closed Y/N misleading	ID fewer accurate details ID fewer accurate details ID fewer accurate details ID more misled
	Children and adults with ID and the Cognitive Interview		
Robinson and McGuire (2005)	Film; 1 day later	Free recall Closed Y/N non-leading Closed Y/N misleading	ID fewer accurate details, more inaccurate details, more confabulated details ID fewer accurate details
Milne et al. (1999)	Film; 1 day later	Free recall Closed Y/N non-leading	No difference between groups ID fewer accurate details, more confabulated details
Milne and Bull (1996)	Film; 1 day later	Free recall Closed Y/N non-leading Closed Y/N misleading	— — Participants reported more correct details about the story when questioned using the Cognitive Interview than a Standard Interview

Note: ID, participants with intellectual disabilities.

Children with ID and Question Type

For free recall, children with ID gave fewer correct responses than those without ID; there was no difference in the number of incorrect responses that children gave (Gordon, Jens, Hollings, & Watson, 1994; Henry & Gudjonsson, 2003, 2007). For closed questions, children with ID were less accurate than children without ID; children with ID were also more likely to agree with leading closed questions (Gordon et al., 1994; Henry & Gudjonsson, 2007). Two studies showed that children with ID were more suggestible to misleading open specific, closed, and closed presumptive questions than children without ID (Agnew & Powell, 2004; Henry & Gudjonsson, 2007). Open specific question types produced the greatest number of errors.

Children with ID and Repeated Interview

Children with ID performed more poorly than those without ID in response to open and open specific questions; children with ID were also more likely to change their responses to specific questions in the repeated interview than those without ID (Henry & Gudjonsson, 2003). Approximately one-third of children with and without ID showed similar sized misinformation effects; they reported information in the second interview that had been suggested to them in the first interview. Repeated interviews increased children's suggestibility for information contained in misleading open questions and they also increased children's errors in free recall.

Adults with ID and the Gudjonsson Suggestibility Scale

Adults with ID were more suggestible to misleading closed questions than the control group of adults without ID (Gudjonsson & Clare, 1995; Gudjonsson & Henry, 2003; Milne, Clare, & Bull, 2002). Adults with ID had higher suggestibility scores as measured by the GSS than adults without ID; however,

participants' scores had a wide range, which indicates that there was a lot of individual variation.

Children and Adults with ID and the Cognitive Interview

Three studies (Milne & Bull, 1996; Milne, Clare, & Bull, 1999, Robinson & McGuire, 2005) compared participants' responses when interviewed with the cognitive interview or a structured control interview. The control interview followed best-practice guidelines for interviews, starting with free recall and only using specific and closed questions if information could not be produced during free recall.

Milne and Bull (1996) found misinformation effects for information introduced using misleading closed questions, for both children and adults with ID compared with children and adults without ID. Overall, participants interviewed with the cognitive interview produced significantly more information than those interviewed with the control interview. However, it has been found that children and adults with ID showed a disproportionate increase in confabulations compared with children and adults without ID (Milne et al., 1999; Robinson & McGuire, 2005).

Discussion

This review highlights the limited amount of research that has investigated the impact of different types of leading questions on the memories of children and adults with ID. Taken together, the results suggest that during free recall, in response to open-ended, non-leading questions (e.g., "Tell me about what happened"), children and adults with ID tend to report fewer details than children and adults without ID. Although they report fewer details, the accuracy of the information reported by children and adults with ID was no less accurate than the information reported by children and adults without ID (Agnew & Powell, 2004; Henry & Gudjonsson, 2003,

2007; Milne & Bull, 1996; Milne et al., 1999, 2002; Perlman et al., 1994; Ternes & Yuille, 2008).

When the questions contained misleading information, those that used open and closed presumptive structures had the largest negative impact of the memories of children and adults with ID compared with children and adults without ID. Interestingly, the largest misinformation effect sizes were found in studies that presented events as films or stories; smaller effect sizes were found when participants actually took part in the event. It is possible that because individuals with ID have particularly poor memories for events presented in visual and verbal forms, they may be more vulnerable to suggestion as they are more likely to rely on external cues from the interviewer (Beail, 2002). Therefore, when children and adults with ID actively participated in the to-be-remembered event, they tended to report more information than when they did not actively participate. This explains the current findings showing that when children and adults with ID actively participated, compared with watching a film clip or listening to a recording, they tended to report more information during free recall and were less susceptible to misleading questions (Agnew & Powell, 2004; Cardone & Dent, 1996; Henry & Gudjonsson, 2003; Ternes & Yuille, 2008).

The role of direct participation in an event was examined by comparing adults with ID's suggestibility scores (as measured by the GSS) across two different event presentations (Cardone & Dent, 1996). Participants in the verbal-only condition listened to a short story, while those in the visual-verbal condition listened to a short story that was accompanied by related pictures. Adults with ID in the visual-verbal condition produced more accurate information and were less likely to yield to leading questions than those in the verbal-only condition. Considering that the current form of the GSS is a short story without pictures, this measure of interrogative suggestibility may enhance adult with ID's

scores due to its presentation (Beail, 2002). Thus, adults with ID – and possibly children with ID who are assessed with a parallel measure – may appear to be more suggestible than they really are.

In studies that used the cognitive interview to enhance the recall of children and adults with and without ID, all witnesses provided more information when interviewed using this technique compared with witnesses interviewed with a control interview. However, compared with the control interview, children and adults with ID provided more confabulated details than those without ID (Milne & Bull, 1996; Milne, Clare, & Bull, 1999; Robinson & McGuire, 2005). Despite the advantages of increased recall for individuals with ID, the focus of research over the past 25 years has remained primarily on individuals without ID, with the cognitive interview being developed into three improved versions (Memon, Meissner, & Fraser, 2010). It is possible that further research on the cognitive interview with individuals with ID, possibly using specific instructions and additional measures, might reduce the number of confabulations previously produced.

Although none of the included studies directly compared the performance of children with ID to adults with ID across different question types, Gudjonsson and Henry (2003) compared results obtained from the GSS using both age groups. Children with ID aged 11–12 years recalled as much information as adults with ID, but they altered more of their answers in response to negative feedback than adults with ID. This finding suggests that as individuals with ID get older, they become more confident about their answers and are less influenced by the negative feedback of others. This finding also suggests that it is important to measure witnesses' confidence about their memories, which was not always assessed in the studies reviewed here. Witness confidence is typically perceived by jurors as an indicator of their memory accuracy (Krug, 2007; Penrod & Cutler, 1995). Unfortunately, as

highlighted by a literature review (Krug, 2007), the majority of research has reached the consensus that confidence is not a reliable predictor of true accuracy.

There is clearly a need for future research to further examine the impact of leading question type on the memories of children and adults with ID. A number of factors have been implicated in the vulnerability of individuals with ID to suggestion, such as susceptibility to authority figures, lack of knowledge of appropriate words, problems understanding the language used, an inability to concentrate, all of which are exacerbated by the effects of a poor memory (Milne & Bull, 2001). It is because of these factors that future studies should be mindful of methodological issues, such as the presentation of an event as a visual-film clip or active participation, to better stimulate real world situations. It has been shown that because both children and adults with an ID produce less complete and clear information during free recall, they may require more specific questions to be able to produce more distinct information. Therefore, it is important to investigate further the types of questions, both leading and misleading, that produce the greatest amounts of misinformation so they can be avoided.

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