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Child and adult witnesses with intellectual disability: The importance of suggestibility

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Purpose. The main aim of the study was to examine the relationship between learning (intellectual) disability and interrogative suggestibility among children (11–12 years old) and adults.

Method. The Gudjonsson Suggestibility Scale (GSS 2) was administered to 110 children and 221 adults who were categorized into three groups according to full-scale IQ scores: (1) normal IQ (>75); (2) mild impairment (IQ score 55–75); and (3) moderate impairment (IQ score <55).

Results. Highly significant differences in memory and suggestibility emerged in both the child and adult samples across groups. Using memory as a covariate in the analysis eliminated the significant group differences for 'yield 1' among the children, but not for adults. There was no significant influence of memory on 'shift' in either group. Whereas 'shift' was significantly influenced by intellectual disability in children, no significant difference emerged across groups among adults.

Conclusions. Children and adults with learning disability have much poorer memory and higher suggestibility scores than their contemporaries of normal intelligence. Differences in suggestibility are only partly explained by poorer memory scores. The findings reveal important differences between children and adults with intellectual disabilities. Children with learning disabilities are more susceptible to altering their answers under pressure than are adults with learning disabilities.

Witnesses and victims often give statements to the police, which are relied upon in court to incriminate defendants (Action for Justice, 2001; Clarke & Milne, 2001). This also includes the testimony of children (Eisen, Goodman, & Quas, 2002; Westcott, Davies, & Bull, 2002) and people with learning disabilities (Cloud, Shepherd, Barkoff, & Shur, 2002; Gudjonsson, Murphy, & Clare, 2000; Kebbell & Milne, 1998). When their account to the police of what they saw or heard pertaining to a crime, and their testimony in court, is inaccurate, incomplete, or dishonest, this may mislead the court. On occasion, this results in wrongful convictions (Huff, Rattner, & Sagarin, 1996; Loftus, 1979; Wells, 1993). Similarly, false incriminating statements, such as false confessions to the police, do on occasion result in a miscarriage of justice (Gudjonsson, 2001, 2002, 2003; Ofshe & Leo, 1997a, 1997b).

The credibility of witnesses comprises two main components: *ability* and *motivation* (Undeutsch, 1982). With regard to the motivational component of credibility

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(i.e. the willingness to give an honest and complete account of events), it is commonly assumed that the accounts given by witnesses and victims are more honest and less self-serving than those given by defendants (Gudjonsson, 1999). Although this may generally be true, the veracity of the statements given by witnesses and victims cannot always be taken at face value. Witnesses and victims do sometimes lie for a variety of reasons, including need for attention, eagerness to assist the police with their enquiries, police pressure, covering up mistakes or the real motive for one's actions, and taking revenge on a third party (Gudjonsson, 2003). In addition, even when people are motivated to be truthful, their statement to the police and evidence in court are often influenced by the ability of the person to give a reliable account of events (i.e. their psychological vulnerabilities and limitations) and the way in which they are questioned (Kebbell & Hatton, 1999). As far as psychological vulnerabilities are concerned, Gudjonsson (1999) states:

> This aspect of credibility is related to the witness's memory of the event in question, cognitive functioning (intelligence, memory capacity, tendency to confabulate), personality (suggestibility, compliance, acquiescence), and mental state (anxiety, depression, feelings of guilt, a state of shock, post-traumatic stress disorder, drug or alcohol intoxication or withdrawal symptoms) (p. 63).

A particularly problematic group of witnesses are those who claim recovered memories of childhood sexual abuse, because in these cases, independent corroboration of the allegation is almost always absent (Davies, 2001; Gudjonsson, 2003).

In this article, we discuss the psychological vulnerabilities of people with learning or intellectual disabilities attempting to give reliable accounts of events when interviewed by the police and when testifying in court. A distinction is made between children and adults with learning disabilities, and the implications of these differences are discussed. The focus in this article is on memory and suggestibility, which are central to situations where children and adults have to provide evidence in legal proceedings (Ceci, Bruck, & Battin, 2000; Ornstein & Greenholt, 2000; Saywitz & Lyon, 2002).

Based on the work of Gudjonsson (1983, 1992) with adults and adolescents, there are two distinct and reasonably independent types of 'interrogative suggestibility', referred to as 'yield' and 'shift'. The former refers to the tendency of interviewees of giving in to leading questions, whereas the latter is more related to ability to cope with interrogative pressure, such as negative feedback and repeated questioning (Gudjonsson, 2003). These two types of suggestibility can be measured by the Gudjonsson Suggestibility Scales, which have two parallel forms: the GSS 1 and the GSS 2 (Gudjonsson, 1997). According to Gudjonsson (2003), yield and shift:

> . . . are both mediated by similar factors, such as cognitive variables (memory, intelligence), anxiety, social factors, and coping skills. However, there is growing evidence that Yield 1 is *relatively* more related to cognitive variables, whereas Shift is *relatively* more related to interpersonal and social factors (p. 413).

The distinction between yield and shift, and their factorial independence, has recently been confirmed among 98 young children (3- to 5-year-olds), using a Video Suggestibility Scale based on the format and procedure of the GSS 1 and GSS 2 (Scullin & Ceci, 2001).

The position taken in this article is that although children and adults with learning disabilities share a significant impairment in intelligence and social functioning, they

are not a homogeneous group of people (Kebbell & Hatton, 1999), and exhibit important individual differences in their other psychological vulnerabilities, including suggestibility (Ceci *et al.*, 2000).

According to the Gudjonsson and Clark (1986) model of interrogative suggestibility, there are two main reasons why people with learning disability are generally more suggestible than people of normal intelligence. Firstly, they have an impaired memory capacity and this makes them more susceptible to suggestion, particularly to giving in to leading questions. Secondly, they are less able to cope with the uncertainty and expectations of questioning. This is supported by Perske's (1994) view that people with a learning disability have problems coping with unfamiliar and stressful demands.

Suggestibility has been shown in a number of studies to correlate significantly with memory capacity (Gudjonsson, 2003). In other words, the poorer the subject's memory, the more suggestible he or she is likely to be. The size of the correlation between memory on the GSS and suggestibility is similar to that found for IQ (e.g. Gudjonsson & Clare, 1995). Correlations of between −.5 and −.6 are typically found for normal adults (Gudjonsson, 1983), but there are significant range effects with regard to both memory and IQ (Gudjonsson, 1988).

Considering that there is a moderate correlation between memory and intelligence, the question arises as to what extent the two cognitive measures overlap in their relationship with suggestibility. The available evidence suggests that in spite of a considerable overlap in the variance explained, memory and intelligence also contribute separately to the individual's susceptibility to suggestions (Gudjonsson, 1983; Sharrock & Gudjonsson, 1993).

A number of studies have been carried out on GSS memory and suggestibility scores of people with learning disability (Cardone & Dent, 1996; Clare & Gudjonsson, 1993; Everington & Fulero, 1999; Gudjonsson & Clare, 1995; Henry & Gudjonsson, 1999, submitted; Milne, Clare, & Bull, 2002; Tully & Cahill, 1984). It is evident that children and adults with learning disability have a poorer memory and are more suggestible than normal controls; Yield seems to differentiate better between the groups than Shift (Cardone & Dent, 1996; Gudjonsson & Clare, 1995; Milne *et al.*, 2002), although Everington and Fulero (1999), using a modified version of the GSS 1 among USA defendants, found that both yield and shift were elevated in defendants with learning disability. There are a number of problems with this study, including using an adapted and abbreviated rather than the full translated version of the GSS, a low number of learning-disabled (LD) participants in the study ($N=18$), and no intellectual assessment carried out on the control group who were assumed to be of 'average' intellectual ability.

Beail (2002) has recently cautioned against using the GSS with individuals who have learning disability, because of the very poor memory scores that many such people obtained on the GSS narrative and the effect that this has on the suggestibility scores obtained. His argument is that the GSS narrative taps into semantic memory rather than episodic and autobiographical memory, which is an issue which had been previously addressed by Gudjonsson and Sigurdsson (1995). This, Beail argues, disadvantages people with learning disability, because during a real-life event, their autobiographical memory is often reasonably good and their testimony sound, as in the landmark case of 'Mary' (Gudjonsson & Gunn, 1982).

A study is presented to compare the memory and suggestibility of children and adults with 'mild' and 'moderate' learning disability. It is hypothesized that suggestibility, as measured by the Gudjonsson Suggestibility Scales (GSS; Gudjonsson, 1997),

discriminates significantly between different levels of intellectual disability among both children and adults, and the difference is only partly accounted for by poor memory for the GSS narrative, particularly for the shift type of suggestibility, which is more related to social and anxiety processes than to memory processes.

Method

Participants

Children

In total, 110 children (66 boys and 44 girls) aged between 11 and 12 years of age participated in the study. Of these, 44 were children from normal inner London schools and were not attending any special needs classes, whereas the remaining 66 children were attending special schools for mild to moderate learning disabilities. All the children were tested using either the short forms of the BAS-II ($N=67$) or the WISC-III ($N=43$). (There was no significant difference between the IQ scores of the two tests; the WISC-III was initially used in the study, but this was changed to the BAS-II when it became apparent that some of the children were performing right at the bottom of the WISC-III scale due to the restricted range of the test scores.) With regard to the children with learning disability, those who on testing obtained a full scale IQ score of 54 or below were classified as 'moderately' learning disabled, whereas those with IQ scores between 55 and 75 were classfied as 'mildly' learning disabled.

Adults

This sample comprised 221 adults (178 males and 43 females) who had been referred to the first author for an assessment of their IQ and suggestibility for the purposes of a police investigation or a court report. They were cases from the first author's files of defendants, witnesses, and alleged victims. They were randomly selected according to full-scale IQ scores to match those of the children's scores, and the same criteria were used for categorizing them into the three groups. They had been assessed on the WAIS-R. Their mean age was 30.6 years ($SD=11.7$).

Suggestibility test and procedure

All the children and adult participants completed the Gudjonsson Suggestibility Scale (GSS 2; Gudjonsson, 1997). This test consists of a short narrative, which is read out to the participant, and 20 specific questions to measure the extent to which the person gives in to leading questions and interrogative pressure. The following can be measured: immediate recall, delayed recall, yield 1 (the number of leading questions given into prior to negative feedback), yield 2 (the number of leading questions given into after negative feedback), shift (the extent to which the person alters the previous answers after being given negative feedback), and total suggestibility (yield 1 and shift added together). Confabulation on immediate and delayed verbal recall can also be measured (Gudjonsson, 1997, 2003), but this was not done in the present study.

All the participants were tested individually. Four main differences existed between the children and adult participants regarding the GSS 2. Firstly, for the children, only immediate recall was measured, whereas among the forensic subjects, both immediate and delayed recall was measured. Secondly, for the child participants, yield 2 was not scored, but it had been scored for all the adult participants (yield 2 is an additional and

Table 1. Mean (*M*) scores and standard deviation (*SD*) on the GSS 2 for normal children (*N*=44), those with mild learning disability (*N*=38) and those with moderate learning disability (*N*=28)

	Normal children		Mild LD		Moderate LD		*F*-value
GSS 2	*M*	*SD*	*M*	*SD*	*M*	*SD*	(*df*=2, 107)
IQ	102.9	11.2	63.3	6.0	46.8	4.3	459.2*
Immediate recall	17.1	5.9	9.1	4.4	5.1	3.6	57.7*
Yield	4.6	2.9	7.0	3.9	8.9	3.3	14.8*
Shift	3.4	2.6	4.6	3.4	7.9	4.0	16.6*
Total suggestibility	7.9	3.8	11.6	6.2	16.8	4.7	27.3*

*$p<.001$.

optional measure to score). Thirdly, the adults were assessed for the purposes of forensic assessment, whereas this was not the case for the children. Fourthly, a different examiner tested the children and adults.

Results

Children

Table 1 gives the mean IQ, memory, and suggestibility scores for the children. One-way ANOVAs were performed on the scores. It is evident that there were highly significant differences between the three groups on all the measures.

Judging from the size of the *F*-value, the greatest differences on the GSS 2 were with regard to immediate recall and total suggestibility. In view of the apparent influence of immediate recall on the subsequent scores, a univariate analysis of variance was performed on each of the three suggestibility scores, using immediate recall as a covariate in the ANOVA. This reduced the significance of the group differences, although they remained significant for shift and total suggestibility: yield 1 ($F=2.3$, $df=2, 106$, *ns*), shift ($F=6.0$, $df=2, 106$, $p<.01$), and total suggestibility ($F=6.9$, $df=2, 106$, $p<.01$). The effect of immediate recall on shift was not significant ($F=3.3$, $df=1, 106$, $p<.10$).

The mean mental ages, according to scores obtained on the BAS-II, were 12.5, 7.9 and 6.4, for the normal children, the mildly learning disabled, and the moderately learning disabled, respectively.

Adults

Table 2 gives the mean IQ, memory (immediate and delayed) and suggestibility scores for the adult forensic groups. One-way ANOVAs were performed on the scores. Highly significant differences were present between the three groups in all the measures except shift.

The greatest differences on the GSS 2, judging from the size of the *F*-values, were with regard to immediate recall, delayed recall, and yield 1. In view of the apparent influence of immediate recall on the subsequent scores, a univariate analysis of variance was performed on each of the four suggestibility scores, using immediate recall as a covariate in the ANOVA. This reduced the significance of the group differences, although yield 1, yield 2, and total suggestibility all remained significant: yield 1 ($F=12.4$, $df=2, 217$, $p<.001$), yield 2 ($F=5.9$, $df=.01$), shift ($F=1.4$, $df=2, 217$, *ns*),

Table 2. Mean (*M*) scores and standard deviation (*SD*) on the GSS 2 for (forensic) adults of average IQ (*N*=93), those with mild learning disability (*N*=101) and those with moderate learning disability (*N*=27)

	Normal IQ adults		Mild LD		Moderate LD		*F*-value
GSS 2	*M*	*SD*	*M*	*SD*	*M*	*SD*	(*df*=2, 218)
IQ	94.4	9.7	67.4	5.7	49.6	3.0	517.3*
Immediate recall	13.4	6.5	6.9	4.5	1.6	1.3	68.9*
Delayed recall	11.9	6.5	5.5	4.1	0.9	1.3	62.2*
Yield 1	5.6	3.5	7.7	4.4	11.3	3.7	23.5*
Yield 2	7.0	4.2	8.7	4.5	11.4	3.2	12.1*
Shift	4.3	3.5	4.4	3.7	5.4	3.4	1.9
Total suggestibility	9.8	5.7	12.1	6.3	16.7	3.9	15.4*

*$p<.001$.

total suggestibility ($F=10.0$, $df=2, 217$, $p<.001$). The effects of immediate recall on yield 1 ($F=1.8$, $df=1, 217$) and shift were not significant ($F=0.62$, $df=1, 217$).

Discussion

There are a number of findings that deserve discussion. Firstly, memory recall on the GSS is an important moderating variable for yield 1 type of suggestibility among children. Its effects on yield 1 were less marked among the adults. Furthermore, immediate recall had no significant moderating effects on shift in either sample. This is an important finding and supports the view of Gudjonsson (2003) that the shift type of suggestibility is less influenced by memory process than yield 1 and is more influenced by social and anxiety processes. Therefore, as far as yield 1 is concerned, this type of suggestibility (i.e. yielding to leading questions) is greatly influenced by the children's memory recall of the GSS narrative.

The finding that shift was not significantly elevated among adults in the learning-disabled groups supports the findings of Clare and Gudjonsson (1993) and Gudjonsson and Clare (1995), although it appears to contradict the findings of Everington and Fulero (1999). Everington and Fulero used a modified and abbreviated version of the GSS 1 among 18 defendants with learning disability and 30 defendants of assumed average intelligence in the USA. They found that shift was significantly more elevated among the learning disability group, which was inconsistent with previous studies. The authors explained the differences by suggesting that this might be due to ethnic differences in the different studies, something which had been found by Gudjonsson, Rutter, and Clare (1995). Interestingly, in that study, yield 1 correlated much more strongly (negatively) with Grisso's competency measures than shift did.

The present study highlights important differences in memory and suggestibility between children and adults with learning disability. In spite of the fact that the IQ scores of the two intellectual disability groups were very similar, the children's memory scores were superior to those of the adults with intellectual disability. The adults with moderate intellectual disability remembered very little of the story, the range of scores on immediate recall being 0–4 and with a mean of 1.6 (4% of the maximum). In contrast, the children with moderate intellectual disability had immediate recall scores

that were over three times greater (13% of the maximum), with the range of scores being 0–12. A similar finding was evident with regard to those with mild intellectual disability. The mildly learning-disabled (LD) children had 22.5% recall compared with 17% of the adults with similar IQ scores. One possible explanation is that children are in an educational setting and are therefore better able to retain new learning material. The other explanation is that adults' intellectual abilities (and this is adjusted for in the IQ scores) deteriorate with age, and this may explain the differences found in the present study between the children and adults. However, no significant relationship has been found between the GSS memory recall and age for different groups of adult subjects (Gudjonsson, 2003). In the present study, there was a small negative correlation between age and Immediate ($r=-.135$, $p<.05$) and Delayed ($r=-.193$, $p<.01$) recall among the adult group on the GSS 2. In addition, Sigurdsson, Gudjonsson, Kolbeinsson, and Petursson (1994) found that verbal memory on the GSS 1 and GSS 2 shows a significant decline with age in older age groups.

Interestingly, even though the memory scores of the children and adults on the GSS 2 were consistently low, the suggestibility scores had a much greater range, highlighting the enormous individual differences in suggestibility among the moderately intellectually disabled. For example, on total suggestibility, the scores ranged between 6 and 25 among the children and between 7 and 24 for the adults. This supports the views of Kebbell and Hatton (1999) 'that individuals with mental retardation are not a homogenous group and should not be treated as such' (p. 184). Individual differences in psychological vulnerability, including suggestibility, are becoming increasingly recognized in the case of both child (Ceci *et al.*, 2000) and adult (Gudjonsson, 2003) witnesses. As stated by Ceci *et al.* (2000):

> In virtually every study that we and others have conducted, there are some younger children who are less affected by suggestive techniques than some older children and adults are (p. 197).

It seems from the literature that children of 12 years or older are able to provide as much free recall information as adults, and they are no more likely to give in to leading questions than adults (Loftus, Greene, & Doyle, 1990). This finding is supported in the present study. The mean memory and suggestibility scores among the normal children are similar to those found among normal adults in the general population (Gudjonsson, 1997). Nevertheless, adolescents have been shown to be particularly vulnerable to interrogative pressure, as measured by shift on the GSS (Gudjonsson & Singh, 1984; Richardson, Gudjonsson, & Kelly, 1995; Singh & Gudjonsson, 1992). This suggests that adolescents do not cope as well as adults in response to interrogative pressure, and it links this type of suggestibility with a social rather than an intellectual and memory process. The research of Ceci and Bruck (1993, 1995) has demonstrated how children are often subjected to multiple interviews, during the course of which questions are often repeated, and this may function in the same way as implicit negative feedback. In the present study, there was a significant effect across the group among the children, with the moderately learning-disabled group having highly elevated shift scores. This effect was not evident among the adult participants.

Cardone and Dent (1996) argue that the GSS may have limited applicability to eyewitness testimony, because most eyewitness testimony is based on visually perceived material, and the GSS presents only verbal information. They found that the presentation of the GSS material visually as well as verbally resulted in improved immediate and delayed recall and lower yield 1 suggestibility scores. The shift scores

were not affected by the modality of presentation. The finding that the mean yield score was lower with the combined visual and verbal presentation of material can be interpreted in terms of both the *uncertainty* component of the Gudjonsson and Clark (1986) model and *discrepancy detection* theory (Schooler & Loftus, 1986). Thus, as the strength of the original information is improved by the dual modality of presentation, the more people are able to resist leading questions. This may be particularly important in cases of adults with learning disabilities, because the yield 1 score is particularly elevated in contrast to a modest shift score (Clare & Gudjonsson, 1993, Gudjonsson & Clare, 1995; Gudjonsson *et al.*, 2000).

Henry and Gudjonsson (1999) found that whereas GSS 2 yield 1 suggestibility did correlate significantly with several of the eyewitness performance measures among children with learning disabilities (aged 11–12 years) and younger normal children (aged 8–9 years), the correlations failed to reach significance among normal 11–12-year-olds, possibly due to the small sample size of this group. Interestingly, IQ performed even worse than the GSS 2; it was only related to one aspect of eyewitness performance, namely closed misleading questions, and only in the learning disabilities group.

Henry and Gudjonsson (in press) studied further eyewitness memory and suggestibility among three groups of children:

- 47 children, 11–12 years old, who had a history of learning disabilities (learning disabilities group, LD).
- 25 children, 11–12 years old, without a history of learning disability and with average IQ (chronological age control group, CA).
- 28 children without learning disability and of average IQ, aged 8–9 years (mental age comparable group, MA).

All the children completed the GSS 2 and also participated in an eyewitness memory task. With regard to immediate recall on the GSS 2, the LD and MA groups had similar mean scores, whereas the CA Group had over twice as much memory recall as the other two groups. The LD and MA groups also had similar yield 1 scores, which were significantly higher than those found for the CA group. Interestingly, the LD group had significantly higher shift scores than the other two groups. This means that when mental age is controlled for, children with learning disabilities are susceptible to shifting their answers after negative feedback. This suggests that a shift in children with learning disabilities may be more mediated by social than cognitive (memory and intelligence) factors and corroborates the present findings.

On the basis of the present findings, Beail's (2002) caution against using the GSS among people with learning disability appears to be more relevant to children than to adults. The point he makes about the distinction between the semantic nature of the recall on the GSS and the episodic and autobiographical memory of witnesses in a real crime situation is an important one in cases of learning disability, as illustrated in the landmark case of 'Mary' (Gudjonsson & Gunn, 1982). In other words, witnesses who prove to be abnormally suggestible on the GSS may not necessarily make bad witnesses when they are testifying about autobiographical events that they recall well and when they are questioned and cross-examined carefully. A high suggestibility score on the GSS and other suggestibility tests only highlights a potential vulnerability, which

should be interpreted in the context of totality of the circumstances in a given case. It should not be interpreted in isolation to other factors in a case (Gudjonsson, 2003; Gudjonsson & Haward, 1998).

Lyon (2002) has reviewed the literature on the general application of suggestibility research to the real world of children's testimony in alleged child abuse cases and repeated questioning. He emphasizes the difference between central details of real-life major events and peripheral details of minor events in relation to repeated questioning. Suggestibility research has typically focused on the latter. The main advantages of the suggestibility research with children, according to Lyon, have been a growing awareness of potential problems with relying on unsubstantiated accounts and the development of non-suggestive interviewing techniques with children when investigating historical abuse.

The current study has a number of limitations. Firstly, the adults were assessed for the purpose of a forensic assessment, where some participants might have been motivated to malinger on the test, particularly on the memory part of the test, although many of the participants in the adult LD groups were assessed as witnesses rather than defendants. When the proper instructions, as provided in the user manual, are followed, then suggestibility on the GSS is highly resistant to faking (Gudjonsson, 2003). Even when people are told that their suggestibility is being measured and they are instructed to fake on the test, only yield 1 is susceptible to faking (Baxter & Bain, 2002). Secondly, ideally the same examiner should have tested both the children and adults. Shift is sensitive to the demeanour of the examiner and to how the negative feedback is administered (Bain & Baxter, 2002; Gudjonsson, 2003). The child examiner adhered closely to the instructions provided in the manual. This would have reduced possible contamination effects. Thirdly, in neither study was confabulation recorded and scored. In future studies, the confabulation scores of children and adults with learning disabilities should be compared.

Finally, Kebbell and Hatton (1999) provide an excellent review of the difficulties that people with learning disabilities may experience with court procedures and cross-examination. There is no doubt that the stress and demands associated with testifying in court, whether as a witness, victim, or suspect, can undermine the potential value of the testimony and the credibility of the witness. Kebbell and Hatton point out that few studies have been carried out on cross-examination procedures. The problems identified relate to lawyers' use of complicated language, which often confuses witnesses, heavy reliance on closed and leading questions, and focusing unduly on peripheral information that witnesses have difficulties in remembering. The consequences of using these tactics when cross-examining witnesses are likely to be particularly serious when applied to people with learning disabilities, because of their specific vulnerabilities relating to poor vocabulary and memory capacity, as well as heightened suggestibility and acquiescence during questioning.

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