

Children's Testimony

A Handbook of Psychological
Research and Forensic Practice

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Children with Intellectual Disabilities and Developmental Disorders

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Key Points

- Children with disabilities are more vulnerable to abuse and maltreatment than their typically developing peers, yet their participation in the criminal justice system is rare.
- Children with mild to moderate intellectual disabilities can recall forensically useful information. Experimental research indicates that mental age level is a reasonably good guide to performance.
- Children with Down syndrome are likely to have language problems, verbal short-term memory difficulties, and may also be difficult to understand because of expressive language difficulties; however, recall of visual and spatial details may be a relative strength.
- Children with autism spectrum disorders may have difficulties with remembering personal and/or social dimensions of an event and expressing themselves, because of language problems and reduced social awareness; but they may also find it difficult to mislead an interviewer.

- Children with Williams syndrome may have apparently advanced language skills, but their ability to recall and understand visual and spatial details or concepts is likely to be weak.
- Best practice for interviewing children with intellectual and developmental disabilities is to adopt relevant guidelines for typical children and, in addition: (i) gather information on the child's profile of strengths and weaknesses before planning interviews; (ii) structure interview questions so that they are simple, short, and carefully paced; (iii) begin with/emphasize free recall, which is likely to be accurate; (iv) avoid the repetition of questions; and (v) provide relevant support (e.g., an intermediary) and adaptations (e.g., more frequent breaks/reassurance).

SOME KEY CONCEPTS

- *Intellectual disabilities*: reduced cognitive capacity as measured by a standardized IQ test, plus difficulties with daily living.
- *Developmental disorder*: maturation in a manner not in line with the typical developmental path.
- *Chronological versus mental age*: children's mental age (MA) is determined by their IQ score in comparison with their peers of the same chronological age (CA); it is important in establishing where developmentally a child's performance on a given task may be, in comparison with typically developing children of the same age.

Children with disabilities are more likely to be maltreated and abused than their typically developing peers (Hershkowitz, Lamb, & Horowitz, 2007; Sullivan & Knutson, 2000), and those with intellectual disabilities are particularly vulnerable to sexual violence (Lin, Yen, Kuo, Wu, & Lin, 2009). Yet, despite being more likely to experience abuse in many forms (Mencap, 1999), individuals with intellectual disabilities are less likely to participate fully in the legal system (Kebbell & Hatton, 1999). Previous chapters have examined typically developing children's potential strengths and weaknesses as witnesses. This chapter examines the types of additional factors that may need to be taken into account for children with intellectual disabilities, and whether these may influence the quality of their testimony. We focus first on child witnesses with general learning difficulties (which we refer to as non-specific intellectual disabilities (ID)). Following this, we go on to examine the possible impact of having an ID *and* a specific

developmental disorder, in relation to Down syndrome, autism spectrum disorder, and Williams syndrome.

A BRIEF INTRODUCTION TO INTELLECTUAL DISABILITIES

This section outlines some key issues that are important in understanding intellectual disability. As such, it is relevant for all four of the groups of children that are discussed subsequently. Although the term 'learning difficulties' is widely used in the United Kingdom, particularly in educational settings, this term has a different meaning in the United States, where it refers to specific difficulties with particular skills such as reading or mathematics. Therefore, we use the term 'intellectual disabilities' (ID) as it is less open to misinterpretation.

ID is 'the most common developmental disorder and the most handicapping of the disorders beginning in childhood' (Harris, 2006). Individuals with ID have significant deficits in cognitive abilities, compared with typically developing individuals of the same age (*DSM-IV*, American Psychiatric Association, 2000). For a formal diagnosis, the ID has to have been evident from early childhood (Emerson, Hatton, Felce, & Murphy, 2001), as measured by an IQ of lower than 70. Equally importantly, the person diagnosed with ID must also present with difficulties in adaptive functioning (areas such as self-care, communication, social development, and interpersonal skills). Both *DSM-IV-TR* and *ICD-10* (World Health Organization, 2007) classify those who achieve IQ scores of less than 70 further as follows: a person with an IQ score of 50–69 would be classified as having mild ID; those with scores in the range of 35–49 as having moderate ID; those scoring 25–35 as having severe ID; and anyone with a score less than 20–25 as having profound ID. However, it is difficult to derive accurate and valid scores on many IQ tests below a level of around 40. Most diagnoses of ID (80%) fall within the mild range and have a favourable prognosis in terms of living independently. There is a 1.5:1 ratio of males to females with ID.

According to Volkmar and Dykens (2002), if we look only at those with an IQ of less than 70, rates of ID are between 2% and 3% of the population. If we also require a degree of social impairment (e.g., sufficient to require services), rates of ID are somewhat lower at around 1% of the population. Many with milder forms of ID in the pre-school years will not yet have come to the attention of services; equally, many will acquire better adaptive skills as they grow up and achieve independence by adulthood. In other words, rates of ID may be lower in pre-schoolers and adults than in school-age children.

Children and adults with ID are a vulnerable population (Westcott & Jones, 1999). They are at increased risk of abuse (e.g., Brown & Stein, 1998; Westcott, 1991), with studies reporting risk factors 2–4 times higher in those with ID than typically developing peers (Lin *et al.*, 2009; Sullivan & Kuntson, 2000). Vulnerability is increased by the lack of power and influence within society of those with ID, their increased dependence on caregivers and intervention services, and a lack of education regarding sexual abuse (Lin *et al.*, 2009). Those with ID can also be the only witnesses to others' victimization in care settings (Milne, 2000). Increased severity of ID appears to correlate with increased severity of abuse (HersHKowitz *et al.*, 2007; Williams, 1995; Wilson & Brewer, 1992). The majority of cases of physical, sexual, and verbal abuse are rarely reported despite being often repeated and chronic (Sobsey & Doe, 1991); but when they are, do not often lead to prosecution or other punishment such as disciplinary action at work (Mencap, 1999; Sharp, 2001). However, despite being more at risk, children with ID are an under-researched group in the eyewitness testimony literature. As children with ID represent a substantial part of the community likely to be victims of crime, it is important to understand their relative strengths and weaknesses in court settings. This is especially important given the importance of witness testimony to the success of a case (Leippe, 1980; Visser, 1987).

As well as discussing potential witnesses for the defence who may have ID, it is important to point out that many defendants also have ID (Barron, Hassiotis, & Banes, 2004). Gudjonsson, Clare, Rutter, and Pearse (1993) observed that the mean IQ for 162 suspects at two police stations was 82 (range 61–131), with 9% recording an IQ below 70, and one-third a score of 75 or less.

Earlier authors have noted that the skills required in encoding, storing, and retrieving memories for events may be less well developed in younger children, with consequent reductions in their ability to process and respond appropriately to questions (e.g., Saywitz, 2002). These issues need careful consideration in children who have ID are likely to be cognitively less mature than typically developing children of the same age (Brown & Geiselman, 1990).

It is important to note that not all witnesses with a disability, intellectual or otherwise, would define themselves as vulnerable. Research with a range of child witnesses (Plotnikoff & Woolfson, 2004) has shown that the most important point is that children's wishes as individuals should be taken into account. Children with ID deserve this treatment too, in conjunction with clinical and diagnostic advice. Neither should it be assumed that all people with a given disability should be treated the same. One cannot make assumptions regarding

the severity of abilities and deficits in children with a given disorder, as there is a high degree of variability, both within and between disorders.

IDENTIFYING CHILDREN WITH INTELLECTUAL DISABILITIES

Children may be identified as having ID through a requirement to be in a special school or being placed into special programmes in mainstream schools. This may be as a result of low IQ or other associated learning problems, or it may be because of the child having a diagnosed developmental disorder that is often or usually associated with ID, such as Down syndrome, Williams syndrome, or autism spectrum disorder (note that although the majority of individuals with Down and Williams syndrome also have ID, the proportion of individuals with autism spectrum disorders and ID is lower, at around 50–80%). It is important to bear in mind that overall IQ scores on their own tell us nothing about the cognitive and behavioural profile of children with ID, and, as with typically developing individuals, those with ID may share a raw IQ score but differ in the pattern of abilities and disabilities they present across the range of cognitive functions. This may be particularly true for children with ID and a specific developmental disorder, as discussed later in the chapter. Therefore, additional diagnostic evidence pertaining to an individual's relative strengths and weaknesses is very valuable.

Describing the performance of children with ID can be in terms of their abilities in each area compared with norms of others of the same chronological age. Alternatively a child's mental age can be determined by comparing their scores with the norms derived from samples of other age groups. Mental age is often used as a general descriptor for the broad level of intellectual functioning of a child with ID, and can be helpful to put the child's abilities in developmental context.

Two theories of the cognitive development of those with ID are also helpful. The 'developmental model' (Zigler, 1969) assumes that step-wise progression towards cognitive competence happens over time in children with non-specific ID. It further assumes that development occurs in the same manner as in typically developing children, but at a slower rate. The 'difference model' assumes that development in children with ID produces cognitive abilities that are qualitatively different to those shown by typically developing children (Ellis, 1969), and that early differences have a detrimental knock-on effect on subsequent development. The two positions may be complementary, and it is probable that some disorders produce specific profiles of cognitive functioning,

which affect both developmental rate and the nature of cognitive performance achieved.

FORENSIC ISSUES RELEVANT TO ALL VULNERABLE WITNESSES

The *Achieving Best Evidence* (ABE) guidelines are now in their second edition (Home Office, 2007) and a brief outline is provided here.

ABE provides guidance for the treatment of a number of witness groups such as intimidated, vulnerable, and significant witnesses. Vulnerable witnesses are able to gain assistance in testifying in criminal cases where they are deemed eligible for 'special measures', such as the removal of gowns/wigs and giving evidence behind a screen. These guidelines stipulate that all witnesses aged 17 or under at the time of the hearing are deemed vulnerable and entitled to have their evidence-in-chief submitted as a video recording, and to be examined and cross-examined via video link. Three other categories of vulnerable witnesses are defined within the guidelines: any witness classified as having a mental disorder; any witness with a learning disability; and anyone with a physical disability. In addition, a complainant in a sexual offence case is deemed to be an intimidated witness and eligible for special measures. It can be seen that any child with ID on its own, or an ID plus a specific developmental disorder, will clearly fall into the vulnerable category, and may also be classed within the intimidated category.

During police interviews and any subsequent court processes, can we determine the likely performance of a child with ID? In answering this question, one might assess whether the child is able to recall and verbalize memories of events, people, and places to the level of their chronological age peers, their peers of the same mental age, or neither of these groups.

As already noted, development in typically developing children and children with ID/developmental disorders may follow the same trajectory; or those with ID/developmental disorders may follow a different path altogether. Additionally, some children with ID/developmental disorders may have a degree of difficulty with language and communication over and above what we might expect based on their mental age. One example of this is Down syndrome, where difficulties with articulating ideas, comprehending questions, and producing easily understandable speech may cause practical problems to interviewers.

A limited amount of research with adults who have ID has given us some insight into their capabilities. Adults with ID are less likely to understand complex instructions such as having their rights read or

explaining the meaning of the oath; they tend to be more acquiescent; and they may not understand the consequences of making a given statement (Clare & Gudjonsson, 1995; Gudjonsson, Murphy, & Clare, 2000). However, if questioned correctly, adults with ID are capable of giving evidence on matters they clearly remember (Gudjonsson & Gunn, 1982) and making correct suspect identifications (Ericson & Isaacs, 2003). Similarly, research has shown that with the correct questioning, adult witnesses with ID are capable of providing accurate testimony (Perlman, Ericson, Esses, & Isaacs, 1994).

We will now move on to considering how well children with non-specific ID, and three different developmental disorders (Down syndrome, autism spectrum disorder, Williams syndrome), deal with questioning procedures. Some developmental disorders are almost always associated with ID (Down and Williams syndromes), and others are often, but not always, associated with ID (autism spectrum disorder). Children with autism spectrum disorder may display other symptoms such as social dysfunction along a continuum of severity, which may affect the way they react to and respond to questions. In addition, 'comorbidity' (i.e., where a child has more than one disorder) is common, and symptoms may interact and possibly exacerbate the child's difficulties. Assessment is therefore crucial to ascertain the strengths and weakness of the individual witness, regardless of the diagnostic symptomatology with which they present.

The following sections give brief overviews of relevant forensic research on children with: (i) non-specific ID; (ii) Down syndrome; (iii) autism spectrum disorder; and (iv) Williams syndrome.

CHILDREN WITH NON-SPECIFIC INTELLECTUAL DISABILITIES

A small body of experimental evidence has developed over the past 20 years, addressing the issue of how well children with non-specific ID are likely to perform as witnesses. In general, the studies involve children watching or participating in a live event, and then taking part in a subsequent evidence-gathering interview, designed to assess their accuracy of recall and often also their suggestibility. Most studies have included three broad types of questions:

1. 'Free recall', whereby the child is asked to remember as much as possible about the witnessed event (e.g. 'Tell me everything you can remember about what happened...');

2. 'General questions', which are open-ended prompts designed to follow up free recall and elicit further narrative answers ('Tell me more about the lady that spoke to you. . .'); and
3. 'Specific questions', which probe particular details and are designed to have short, or one word answers ('What did the lady take out of her bag?').

Note that some experimental studies also include *leading* questions (indicating or suggesting to the interviewee an answer (e.g., 'The lady was wearing a hat, wasn't she?'). In fact, leading questions can be *correctly* leading, whereby the correct answer is suggested; or *misleading* whereby a mistaken answer is suggested (e.g., 'The man took a picture of you with his mobile phone', when he did not). Clearly, absolute truth regarding whether a question is correctly leading or misleading is known in experimental studies using staged events. Leading questions, however, are not recommended in ABE guidelines.

Turning now to the literature, Dent (1986) tested 33 children (aged 8–11 years) with IQs ranging from 49 to 70, using different questioning techniques. She found that they recalled less information in response to free-recall and specific questions, but more in response to general questions. This finding ties in well with subsequent research showing that children with ID may produce sparse amounts of detail in response to free-recall instructions, but that this information is nevertheless very accurate, with around 94% accuracy or higher being a common finding (Henry & Gudjonsson, 1999, 2004; Michel, Gordon, Ornstein, & Simpson, 2000). However, Dent did not compare the performance of children with ID to that of comparison groups, so it was not possible to evaluate whether their performance might reach chronological age levels, or more closely resemble typically developing peers of a similar mental age.

A later experimental study by Henry and Gudjonsson (1999) looked at just this issue. They evaluated the eyewitness skills of 11- to 12-year-old children with ID (IQ 60, range 40–78, MA 7 years), comparing them with typically developing children who were either of the same mental age (younger children) or the same chronological age. Henry and Gudjonsson (1999) found that children with ID recalled slightly fewer details in response to free-recall instructions than typically developing children of the same age, but that this difference was not significant. This rather good level of performance was also found for general questions and a range of other specific questions. Where the children with ID had difficulties was in responding to misleading questions phrased in a 'yes/no' style (e.g., 'The man said hello to you, didn't he?', when he did not). Here, the children with ID were more suggestible than

typically developing comparisons of the same chronological age. Nevertheless, they were not more suggestible than the comparison group matched for mental age. These results implied that children with ID could provide a good range of detail about an event in response to a range of question types, even in comparison to chronological age peers but that they were slightly more vulnerable to misleading 'yes/no' questions.

This research was followed up by Henry and Gudjonsson (2003) to examine whether those with more marked ID might have greater difficulties with witnessing skills than those with milder ID. This was, indeed, the case. Children aged 11–12 years with mild ID (IQ 66, range 55–79, MA 8 years) recalled just as much information in response to free-recall instructions as typically developing children of the same chronological age; and were no more suggestible. Overall therefore, the performance on those with mild ID was very good, although they did show slightly weaker performance on general questions and some types of specific questions. By contrast, 11-to 12-year-old children with moderate ID (IQ 46, range 40–54, MA 6 years) showed weaknesses on all question types compared with chronological age comparisons.

However, one important finding from this study was that even the children with moderate ID did not perform below their mental age level. Therefore, we might expect that the witnessing skills of children with moderate ID should be in line with their mental age. Somewhat higher expectations may even be appropriate for those with milder forms of ID.

Henry and Gudjonsson (2003) did, nevertheless, find one marked weakness that was characteristic of children with both mild and moderate ID. When evidence gathering interviews were re-administered 2 weeks later, children with ID changed their responses to specific questions more often than either comparison group. These results imply that interviewers must take particular care with repeated questions/interviews, as children with ID may be prone to interpreting a repeated question as a signal that their original answer was incorrect. Similarly, Cederborg, Danielsson, La Rooy, and Lamb (2009) examined real life transcripts of evidence-gathering interviews with children and young people with ID (some also had autism spectrum disorder, so this was a very mixed sample), relating to sexual abuse allegations. Cederborg *et al.* (2009) found that 9% of 'focused' (specific) questions were repeated in these interviews, and that the children and young people with ID changed their answers to these repeated questions on 40% of occasions. Although these authors did not include a control group, the rates of changed responses to repeated questions were very high.

Other experimental work has broadly supported the view that the witnessing skills of those with non-specific ID are in line with mental

age. For example, Michel *et al.* (2000) found that 9- to 14-year-old children with ID (IQ 58, standard deviation 15, MA 6.5 years, CA 11.5 years) recalled as much information about a simulated health check (and obtained the same levels of suggestibility) as children of the same mental age; although they did not reach the performance levels of chronological age comparisons. Jens, Gordon, and Shaddock (1990) also found that 10-year-old children with ID (IQ 63, range 47-77, MA 6.5 years) obtained levels of recall and suggestibility in line with their mental age; a result that was largely replicated in a new sample of 10-year-old children with ID (IQ 57, range not reported, MA 6.5 years) by Gordon, Jens, Hollings, and Watson (1994).

It is tempting to summarize the implications of these findings by saying that children with ID show at least 'mental age-appropriate' witness skills. However, there is one study to suggest that such a conclusion should be made cautiously. Agnew and Powell (2004) found that 9- to 12-year-old children with ID recalled fewer items of information about a magic show they participated in than children of the same mental age. This was true for free recall as well as a range of specific questions including those phrased as a 'forced choice' between alternatives. Less comprehensive and accurate answers were provided, and the participants in both mild (IQ 63, range 56-75) and moderate ID (IQ less than 55, but not exactly determined as the test used did not measure IQs below 55) groups required more questioning to elicit information. The authors attributed this to possible language deficits and to less efficient explicit memory processing. However, the children with ID were not more suggestible than typically developing children of the same mental or chronological age. Agnew and Powell (2004) also noted that all of the children were able to provide forensically useful and accurate information about more than half of the target items when the interview as a whole was looked at.

However, it is important to note that the experimental studies reviewed here did not concern traumatic events, and there were no consequences following the evidence-gathering interviews. Instances of abuse allegations in relation to children with disabilities are more likely to concern parents or parent figures, and the psychological and physical dependence of these children on their abusers may account for their reduced likelihood of disclosure (Hershkowitz *et al.*, 2007). In addition, court settings may be particularly problematic for those with ID. Research shows their comprehension of legal terms as adults does not match typically developing peers (Ericson & Perlman, 2001). During complex questioning, particularly under cross-examination, professionals do not appear to make allowances for those with ID (Kebbell, Hatton, & Johnson, 2004). Neither do judges intervene on their behalf

as they are allowed to do by law (O'Kelly, Kebbell, Hatton, & Johnson, 2003). Thus, further research is required to assess whether the promising performance of children with ID on experimental witnessing tasks can be reproduced in real forensic settings.

Forensic Implications

Despite these caveats, the main point to emerge is that children with ID can provide forensically useful and relatively accurate information about an event. If forensic interviews are conducted in line with best-practice models such as that published by the Home Office (2007), this should optimize their responses. In fact, Agnew, Powell, and Snow (2006) have recently investigated this, utilizing real police interviewers in an experimental study of event recall in 9- to 13-year-old children with ID (IQ in the range 75 and below, but the IQ test did not measure IQs under 55). Agnew *et al.* (2006) found that police officers did broadly adopt best-practice guidelines, but made frequent interruptions and did not use many 'minimal encouragers' to increase the amount of recall.

The most important points to bear in mind about the structure and planning of evidence-gathering interviews with children have been covered already in other chapters, and remain highly relevant for children with ID. However, it is worth re-emphasizing the importance of question order when interviewing children with ID. Interviews should begin with open-ended requests for 'free recall', because this has been found to be very accurate, if sometimes rather sparse. General prompts should come next, to try to elicit more free narrative, again because this is likely to be accurate. Specific questions should be left until last, because children with ID may answer such questions to please an interviewer, or try to provide the answer they think is wanted. In addition, specific questions should not be repeated, given evidence that children with ID are prone to changing answers when specific questions are repeated (Cederborg *et al.*, 2009; Henry & Gudjonsson, 2003).

It is always important to tailor interviews with children to their developmental level, and this is particularly important for children with ID. We have suggested that mental age might be an approximate guide to a child's developmental level, if no other information is available. Questions should be worded in a simple manner, free from jargon and abstract ideas or words. Each question should be short and restricted to just one point (children with ID often have poor verbal short-term memory; e.g., Henry & Winfield, 2010), not too directive or suggestive, and without double negatives ('She was not unhappy'). Thorough and timely preparation for an evidence gathering-interview with children who have ID (or suspected ID) is strongly recommended.

Additional factors to bear in mind when interviewing children and young people with non-specific ID include:

1. Does the child need more frequent breaks and a familiar environment with very few distractions.
2. Would the child benefit from having a familiar person or 'supporter' present, or at the very least regular reassurance from the interviewer.
3. Are there any language weaknesses or idiosyncratic uses of language that need to be taken into account.
4. Should the questions proceed at a slower pace, as individuals with ID can have slower speeds of information processing (Anderson, 2001).
5. Does the child know that the interviewer does not know what happened – children with ID may assume that the interviewer knows already.
6. Does the child know that the interviewer needs full details – children with ID may not appreciate this.
7. Is there adequate time to establish rapport and allow the interviewer to judge the child's level of social, emotional, and cognitive maturity.
8. Would the child benefit from an 'intermediary' (all child witnesses, particularly those with communication difficulties, are entitled to an intermediary to assess their communicative skills and assist interviewers, barristers, and judges in communicating with the child throughout the investigative process prior to and during evidence-gathering interviews, as well as in court).

Cross-Examination

Our adversarial system recognizes a defendant's right to challenge and test the evidence against them. Thus, conflict is inherent in attempting to balance the rights of the defendant with those of the witness. 'While it is important to cater for a child's needs and comfort, judicial efforts to that end should never be such as to amount to a suggestion that the child's evidence is likely to be more credible than that of any another witness. Consistently with that, steps to limit the distress experienced by a child must not overcome the necessity of ensuring that a party has been given a proper opportunity to challenge the evidence of the child' (Judicial Studies Board, 2008).

In court settings, typically developing children can experience anxiety and stress as a result of questioning from verbose and aggressive defence lawyers, such that they are likely to change their answers, regardless of initial accuracy, under cross-examination (Zajac & Hayne, 2003). This is unrelated to telling lies. Lyon and Saywitz (1999) asked

96 abused and neglected children to distinguish between truth and lies in three tasks, showing that at age 5, children were able to identify these differences successfully. Nevertheless, children may be overawed by the authority figure posing questions, may remember details and events differently from adults, and are known to be more suggestible than adults. They seldom request clarification of questions, despite the complexity of the language used in court, and are highly inconsistent when cross-examined, with 75% of 5- to 7-year-olds changing at least one piece of their evidence in a study of real court transcripts (Zajac, Gross, & Hayne, 2003). If typically developing children experience this stress to a point where their performance suffers, what can we expect from children with ID?

As we have seen earlier, even when matched for mental age and therefore cognitive ability, children with ID appear more likely than other children to change their answers when evidence-gathering interviews are repeated (Henry & Gudjonsson, 2003). While this may be a result of social factors (e.g., eagerness to please, increased sensitivity to desired cued responses), which are also present in typically developing children, it is possible that such phenomena may be exacerbated in children with ID.

However, recent research (Bettenay, 2010) undertaken with children who had non-specific ID indicated that they were broadly no more susceptible to changing their answers under cross-examination (by real trainee barristers) than children of the same mental age, either for gist questions (general questions relating to the event and its meaning) or verbatim questions (specific details of the event). In fact, very large numbers of primary school age children, whether they had ID or not, changed their responses in a 'mock' cross-examination.

Summary: Children with Non-specific Intellectual Disabilities

- Children with ID have broad difficulties with thinking and learning, usually expressed as low IQ, and difficulties with daily living skills.
- Research evidence indicates that children and young people with non-specific ID (there is no diagnosed cause for the ID) can recall forensically relevant and valuable information about witnessed events.
- Forensic interviews both prior to and during court appearances may be most effective if carried out with the expectation that the performance of children with ID will compare with children of a similar mental age (i.e., their equivalent in a measure of cognitive ability rather than their equivalent in actual years). However, all children with ID are individuals, and there is substantial variation in witness

performance within both typically developing and intellectually disabled populations.

- Performance may vary depending on a number of factors; some relating to the child's profile of cognitive skills and whether the ID is mild or moderate, and others concerning the particular social and emotional circumstances of the interview.
- Children and young people with ID may benefit from intermediaries to facilitate their communication, but there is as yet no research evidence on this issue.
- Following ABE Guidelines for vulnerable witnesses will help interviewers to obtain the most accurate accounts from children with non-specific ID, but a number of additional considerations have been outlined. Repeated questions, in particular, are best avoided with this population of children, as their tendency to change responses may adversely affect the credibility of their evidence.

CHILDREN WITH DOWN SYNDROME

Down syndrome (DS) is the most frequently observed genetic disorder (Pennington, Moon, Edgin, Stedron, & Nadel, 2003) and the most common genetic cause of ID (Caselli, Monaco, Trasciani, & Vicari, 2008). The condition occurs in approximately 1 in every 700–1000 live births (Kittler, Krinsky-McHale, & Devenny, 2007), and is almost uniformly caused by trisomy 21, an extra copy of genetic material on chromosome 21 (Pennington *et al.*, 2003), with around 95% of individuals with DS displaying this anomaly (Seung & Chapman, 2004). Physical features associated with DS include distinctive 'flattened' facial features and poor muscle tone (Nadal *et al.*, 1996). In addition, there are increased risks of congenital heart disease, leukaemia (Korenberg, Bradley, & Disteche, 1992), hearing difficulties (Dahle & McCollister, 1986), immunological deficiencies (Goldacre, Wotton, Seagroatt, & Yeates, 2004) and speech–motor problems (Fowler, 1995).

Psychologically, the condition is primarily characterized by ID, with IQ usually in the moderate to severe range (i.e., 25–55; Pennington *et al.*, 2003). However, despite severe ID being typical, Epstein (1989) points out that the IQs of some individuals with DS are in the normal range. Furthermore, recent advances in educational provision, coupled with higher expectations, have meant that many children with DS are now educated in mainstream settings.

DS also carries a significantly increased risk of age-related cognitive decline and early onset of Alzheimer's-type dementia (Numminen, Service, Ahonen, & Ruoppila, 2001; Rowe, Lavender, & Turk, 2006),

with Johanson *et al.* (1991) reporting clinical dementia to be observable in 25–30% of those with DS aged 40 years and under, rising to 75% prevalence by the age of 60. Co-occurrence of DS and autistic spectrum disorder is also relatively common, with 5–10% of individuals with DS estimated to display sufficient autistic traits for diagnosis (Kent, Evans, Paul, & Sharp, 1999; Rasmussen, Börjesson, Wentz, & Gilberg, 2001).

Behaviourally, those with DS have often been characterized as friendly, cooperative, and mild-mannered, and likely to show fewer adaptive behaviour problems than individuals with other types of developmental disorder (e.g., Chapman & Hesketh, 2000). However, some authors have reported a significantly higher level of problem behaviours, such as non-compliance, aggression, and social withdrawal, in comparison with typically developing individuals (Coe *et al.*, 1999; Cuskelly & Dadds, 1992).

A principal feature of the DS ability profile is a marked impairment in expressive language (i.e., language that is produced rather than simply heard) (Fowler, Gelman, & Gleitman, 1994). Within this domain, individuals with DS show deficits in a number of areas, including vocabulary, utterance length, sentence construction (or syntax), and intelligibility, in comparison with typically developing comparisons matched for non-verbal mental age (e.g., Chapman, Seung, Schwartz, & Kay-Raining Bird, 1998). Verbal short-term memory deficits, in the absence of specific hearing impairments (which may compromise performance upon verbal memory tasks) have also been observed (e.g., Jarrold & Baddeley, 1997; Jarrold, Baddeley, & Hewes, 2000). Some researchers suggest that the expressive language impairments in DS may be directly related to these verbal STM problems (Chapman, 1995; Fowler, 1998).

In contrast, receptive language (i.e., understanding and processing of language) and non-verbal skills, while still generally impaired in comparison with the performance of typically developing individuals, has often been observed to be superior to expressive language (e.g., Chapman, Schwartz, & Kay-Raining Bird, 1991). Although the cognitive profile associated with DS has been reasonably well defined, Reeves, Baxter, and Richtmeier (2001) point out that people with the condition vary in terms of the severity of the characteristics with which they present.

Forensic Implications

The points raised in the previous section on interviewing children with ID will be equally relevant when interviewing children who have DS. However, there are a number of additional points to keep in mind for

this population of children. Although we are not aware of any specific research that has examined the performance of children with DS in investigative interview situations, existing knowledge of the verbal/non-verbal ability profile associated with the condition enables the identification of factors that may potentially be of influence, and of which practitioners should be aware.

In particular, the poorer verbal than non-verbal abilities shown by individuals with DS, especially when considered in combination with their documented expressive language deficit, may mean that children with DS will be better equipped to recall visual and spatial information than verbal material. However, because of language production difficulties, it may be advisable – and less stressful for the child – to enable them to communicate this information non-verbally wherever possible (e.g., tracing a route manually on a floor plan drawing).

In terms of questioning, although the verbal understanding of children with DS is likely to outstrip their ability to communicate information, receptive language abilities in DS are still usually below those of chronological age-matched typically developing children. Interviewers should, therefore, employ clear, simple language wherever possible, and avoid using lengthy phrases and questions. The latter is particularly important because of the known difficulties with verbal short-term memory. Interviewers should also ascertain whether a child with DS has any hearing difficulties, as these are relatively common.

Where children with DS are required to give verbal responses, difficulties with articulation and/or intelligibility may make it hard for them to be fully understood. It is advisable that, where possible, children are interviewed in the presence of an individual who knows them well enough to be able to clarify anything they say that may be difficult to decipher or understand. The use of intermediaries to facilitate communication and understanding, and avoid important misinterpretations throughout the investigative process is strongly recommended for children with DS. Children with DS are also routinely reported to use significantly shorter sentences when communicating than typically developing children (e.g., Chapman *et al.*, 1998). While this may be a result of expressive language difficulties, it is highly plausible that, for some children, a lack of communicative confidence may be implicated. It is thus advisable not only to allocate more time than usual to the interview process, and rephrase key questions if necessary, but also to offer encouragement and approval at every opportunity, in order to facilitate freer communication.

Lastly, because of the wide ability range that has been observed in the DS population, it is possible that some children may have difficulty grasping certain key contextual aspects of the interview situation. For

instance, a witness with DS may find it hard to understand that he/she is not directly in trouble. Simply being interviewed in a police station may prompt greater anxiety, fear, and reluctance to communicate than the 'being a witness' situation might usually provoke in typically developing individuals. It is therefore important to establish early on in the investigative process that the child understands exactly why he/she is there, that he/she is not trouble, and to periodically reinforce this information.

Summary: Children with Down Syndrome

- DS is a developmental disorder associated with ID, in the moderate to severe range (IQ 20–55).
- Interviewers should be aware that hearing difficulties and speech motor problems (leading to reduced intelligibility) are relatively common among children with DS. Taken together with the fact that children with DS have difficulties with expressive language, the use of an intermediary is strongly recommended.
- Immediate verbal short-term memory difficulties are also characteristic of DS; this means that questions must be kept very short and simple.
- Relative strengths in those with DS include good non-verbal skills and better receptive than expressive language. This means that children may understand more than they can express verbally; interviewers might also consider using non-verbal methods to elicit information.
- Like any vulnerable witness, a child with DS may require regular reassurance in an interview situation.

CHILDREN WITH AUTISM SPECTRUM DISORDER

Autism spectrum disorder (ASD) is a lifelong developmental disorder included in the *DSM-IV-TR* broader category of Pervasive Developmental Disorder (PDD). ASD encompasses a wide range of symptoms, but three main characteristics/impairments are particularly marked: difficulties in reciprocal social interaction; difficulties in communication; and restricted/repetitive behaviours and interests. It affects around four times more boys than girls (Volkmar, Szatmari, & Sparrow, 1993), and the overall prevalence of the broader category of PDD may be as high as 1 in 1000 (Fombonne, 2002). Although ASD is understood to present with early onset (before 36 months), distinct patterns of non-typical behaviours can routinely be clinically observed around 3 years

of age (Howlin & Moore, 1997; Matson, Nebel-Schwalm, & Matson, 2007).

Individuals with ASD vary in the severity of their symptoms from high functioning individuals, possibly with a diagnosis of Asperger syndrome and relatively intact language and intelligence (Joliffe & Baron-Cohen, 1999), to those with more severe symptoms. However, they all share poor social relationships and rigid behaviour patterns. There appears to be a lack of ability in children with ASD to mentally represent the thoughts and feelings of themselves and others; for example, they cannot predict others' behaviour, understand jokes, sarcasm, or metaphors and do not interpret lying behaviour (Martin & McDonald, 2003). Conscious and deliberate effort is required to deduce logically what others may be thinking or feeling (Grandin & Scariano, 1986). Researchers (e.g., Hobson, 1993) note that those on the autism spectrum may experience problems with personal pronouns (I, you) and struggle to interpret terms for space and time (here, there, come, go).

Obsessional interests are often evident, as children and adults with ASD attend to small details within a larger subject such as train timetables, cardboard boxes, and straight lines (Watts & Swinbourne, 2001). Anxiety is prevalent, and may be exacerbated by the cognitive and social deficits described above in children and adolescents with ASD (MacNeil, Lopes, & Minnes, 2009). Situational anxiety, particularly when routines are disrupted, strangers are present, or other events occur that the individual feels deviate from their normal experience, will be high in most individuals on the autism spectrum regardless of cognitive ability.

ASD can co-occur with other disorders, most often with ID; around 50–80% of individuals with ASD have ID (Matson & Shoemaker, 2009). Matson and Shoemaker (2009) also note that because of increased effectiveness of available testing techniques and an increase in knowledge about the research area, comorbidity is now understood to occur often with mood and anxiety disorders, schizophrenia, obsessive-compulsive disorder, and attention deficit hyperactivity disorder (ADHD).

Depending upon where the individual's symptoms lie on the autism spectrum, behaviour can be rigid and inflexible (e.g., routines must be followed exactly); and perseveration can be common, perhaps repeating one set of behaviours over and over again. One of the authors notes that this adherence to rules can sometimes manifest itself as a preoccupation with the law, the police, and legal aspects of life generally. Even in the absence of such a preoccupation, any interview situation may induce high levels of anxiety, as well as necessitating the breaking of routines, which may be stressful in itself. Individuals with ASD may

also experience difficulties in planning for the future or even thinking about the future – they do not anticipate the long-term consequences of their behaviour.

Forensic Implications

As many individuals with ASD also have ID, the general comments made earlier regarding interviewing children with ID will be relevant. There is also some specifically relevant research evidence on examining witnessing skills more directly in children with ASD, as well as some general research on memory development in those with ASD which has forensic implications. We will now touch on both of these areas.

Research on general memory functioning in those with ASD has identified difficulties with the recall of 'gist', or abstracted meaning, information. For example, although some individuals with ASD show remarkable and richly developed memory for 'facts' (some individuals have 'savant' skills in this area), these remembering skills tend to be narrow and rigid, and are not suited to recalling the gist of an event (Jordan, 2008). Recounting events with a 'personal' dimension or point of view may also be problematic for those with ASD, because of their difficulties with social relationships and the understanding of self (Jordan, 2008). Finally, memory for faces and voices, whether the newly encountered or familiar, seems to be impaired in those with ASD (Webb, 2008).

Some relevant research has recently been carried out on autobiographical memory and witnessing skills in children with ASD. For example, McCrory, Henry, and Happé (2007) looked at memory and suggestibility in young people (11–14 years) with Asperger syndrome. Although these individuals generally do not have language difficulties or ID, they do demonstrate the social difficulties and rigid behaviour patterns characteristic of ASD. McCrory *et al.* (2007) found that young people with Asperger syndrome did not differ from chronological age-matched (and IQ-matched) comparisons on their overall accuracy or suggestibility in recalling a recently witnessed, staged, live event. However, there were subtle differences in performance. Those with Asperger syndrome recalled less information in response to free-recall instructions, particularly for social details about the event. They were also less able to recall the five key ('gist') aspects of the event.

Similarly, Bruck, London, Landa, and Goodman (2007) evaluated autobiographical memory for recent and past life events, as well as including an assessment of how well a recently experienced magic show could be recalled. These authors focused on children with ASD that were 'high functioning', with IQs in the average range. Bruck *et al.*

(2007) found that children with ASD provided fewer accurate details than typically developing comparisons on virtually every measure they included. Children with ASD did not make more errors (of confabulation or distortion), they simply produced much sparser reports. These findings tie in well with reports that children and young people with ASD have difficulty with recalling gist information about events, particularly in relation to social details or events of personal relevance. However, it is important to note that the experimental studies we have quoted concern only high functioning children with ASD, and this work should be extended to children who have ASD plus ID.

Despite these documented difficulties with recalling gist information, children and young people with ASD may have enhanced abilities to recall specific detailed information that others miss, provided that the information is of interest to them. Therefore, it is possible that a child with ASD could provide better evidence about some types of details than a child with no disability. As noted by Baron-Cohen (2002), 'In the social world there is no great benefit to such a precise eye for detail, but in the world of maths, computing, cataloguing, music, linguistics, craft, engineering or science, such an eye for detail can lead to success rather than disability.'

Another potentially positive feature about those with ASD is that they should have difficulty deliberately misleading an interviewer, or lying, because their understanding of these concepts is often limited. However, the other side of this is that the relative inability of children with ASD to show empathy toward others may mean details of how other players in an event were acting may be lost. When interviewing, it should also be borne in mind that individuals with ASD are not able to process metaphors or allusions given their literal interpretation of language. 'It's raining cats and dogs' may mean exactly that to an individual on the autistic spectrum. Therefore, use of these phrases could induce confusion and heighten anxiety.

Care must be taken not to over-generalize with respect to individuals with ASD, given the wide range of symptoms children with this disorder present with. Children at the mild end of the spectrum may simply have problems with social skills, while those at the far end may have little or no language or ability to interact socially, and repetitive behaviours which further impede communication. While language skills may be preserved in those with Asperger syndrome, their restricted interests and social difficulties may mean that details in the surrounding environment and socially salient information remain of little interest to them.

In children with more severe symptoms, language skills may be severely depleted or non-existent. For example, echolalia is a sign of

delayed language development in those with autism (Durand, 2005). However, young children also repeat speech from others as an intermediate step to full language acquisition. Some children with ASD may be 'stuck' at that stage of development, but it must not be assumed that the child does not comprehend what is being said. The intervention of an intermediary (many intermediaries are qualified speech and language therapists) would be essential in such cases where language development is severely delayed or unusual.

Summary: Children with Autism Spectrum Disorder

- Children and young people with ASD have difficulties with reciprocal social interaction, communication difficulties, narrow and obsessional interests, and rigid or inflexible behaviour. Intellectual disability is also present in 50–80% of those with ASD.
- The large range and variation in severity of symptoms in ASD means that generalizing about individual performance can be difficult. For example, those with Asperger syndrome do not tend to show difficulties with language, nor do they have ID, but they will still show social and behavioural difficulties.
- Lack of expressive language, unusual or severely delayed language skills, and/or unusual social skills in a proportion of individuals with ASD may impede interviews. Intermediaries, therefore, are highly recommended for children who have limited language skills.
- Research evidence suggests that individuals with ASD show poor memory for the gist of an event, especially in relation to social aspects of the situation. However, it is possible that they may remember large amounts of specific detail if this coincides with their area(s) of interest.
- Children and young people with ASD are unlikely to perform well on face or voice recognition, given research evidence that these skills are impaired.
- Children with ASD are, however, expected to find lying or misleading an interviewer difficult, as their understanding of such concepts is limited.

CHILDREN WITH WILLIAMS SYNDROME

Williams syndrome (WS) is a rare developmental disorder resulting from a deletion of genetic material on chromosome 7 (Peoples *et al.*, 2000), with a prevalence of approximately 1 in 20 000 (Brown *et al.*, 2003). Physical features of the condition include 'elfin' facial features

(Morris & Mervis, 1999), growth deficiency (Udwin, Davies, & Howlin, 1996), poor muscle tone, excessive blood calcium levels (Morris, Demsey, Leonard, Dilts, & Blackburn, 1988), cardiac/kidney problems, and hypersensitivity to certain sounds (Laskari, Smith, & Graham, 1999).

The psychological profiles of individuals with WS are generally characterized by mild to moderate ID, and an uneven pattern of abilities; namely a relative strength in verbal skills alongside marked non-verbal difficulties in problem solving (e.g., Bellugi, Bihrlé, Neville, Jernigan, & Doherty, 1992), numerical (e.g., Udwin *et al.*, 1996) and spatial processing (e.g., Bellugi, Wang, & Jernigan, 1994). However, an area of strength within the spatial domain has been observed, with individuals with WS sometimes reported to show face recognition or face processing skills at a level similar to that of mental age-matched comparisons (e.g., Deruelle, Mancini, Livet, Casse-Perrot, & de Schonen, 1999; Gagliardi *et al.*, 2003). This is in direct contrast to other aspects of spatial performance, which have been consistently observed to be weak (e.g., Bihrlé, Bellugi, Delis, & Marks, 1989).

Behaviourally, individuals with WS generally present as sociable, talkative, empathic, and uninhibited (e.g., Jones *et al.*, 2000; Porter, Coltheart, & Langdon, 2007). While some studies have indicated that social interaction skills in those with WS may be impaired or at least atypical (e.g., Stojanovik, 2006), such observably 'hypersociable' behaviour is a striking aspect of the condition. Restlessness, hyperactivity, and anxiety – both generalized and specific – have also been reported (e.g., Davies, Udwin, & Howlin, 1998; Dykens, 2003).

Despite the relatively defined psychological, social, and behavioural profile which has come to be associated with WS, it is undoubtedly important for practitioners to remember that individuals with the condition can vary considerably in terms of the extent to which they manifest each of the traits discussed (Porter & Coltheart, 2005). Nevertheless, Bellugi, Lichtenberger, Jones, Lai, and St George (1994) note that the long-term circumstances of individuals with WS are generally characterized by special educational placement with heavily supported living in adulthood, with adults with WS usually residing in the parental home or in a supervised care setting.

Forensic Implications

As with DS, we are not aware of any specific research that has examined the performance of children with WS in investigative interview situations, but earlier comments regarding interviewing those with non-specific ID will be relevant. In addition, we have used existing knowledge of the verbal/non-verbal ability profile associated with the

condition to identify some potentially relevant factors specific to those with WS.

The cognitive abilities of those with WS are – generally speaking – the reverse of DS, with verbal skills being relatively preserved compared with those with DS. In addition, processing of faces seems to be an area of strength. It may be reasonable to expect that such a profile may determine how well – or how poorly – different types of material are recalled or reported. For instance, research suggests that verbal memory in children with WS is superior to memory for spatial material (e.g., Jarrold, Baddeley, & Hewes, 1999; Wang & Bellugi, 1994). Therefore, it might be that individuals with WS, when being interviewed or cross-examined, may find it easier to remember specific verbal material than material of a visual or spatial nature. In other words, they may be more likely to remember ‘what was said’ than they would a particular route taken or the spatial location of a person or object at a scene. Furthermore, with regard to spatial language, research has indicated that children with WS may often misuse spatial prepositions (Rubba & Klima, 1991) or overgeneralize when using such devices (e.g. ‘by’ rather than ‘in front of/behind’; Bellugi *et al.*, 2000). However, they may show relative superiority when recalling aspects of, or identifying, unfamiliar faces.

Although children with WS often appear to be fluent speakers and able conversationalists, assumptions should not be made about what children may mean when speaking, and what they may have understood when listening. A number of parents of children with WS have informally expressed to one of the authors that they feel their children are routinely ‘over-rated’ in terms of overall ability, and that this may be because of a combination of verbal strengths and a tendency to present well in social and conversational situations.

Despite most children with WS qualifying under current jurisdiction for vulnerable witness status (at least) as a result of associated ID, it is highly plausible that the formalized nature of interview room/court situations, whether evidence is being given remotely or not, will cause high levels of anxiety. Although this is a pertinent concern with regard to any child, practitioners should remain conscious of the heightened anxiety which has frequently been associated with WS.

In addition to anxiety which may arise from the interview situation, other aspects of the WS profile may also affect the nature of the responses given. Specific, narrow interests (a phenomenon common to individuals with WS) may cause children to fixate on one particular aspect of a recalled scenario, at the expense of other factors that are equally, if not more, meaningful. Alternatively, possible difficulties with inhibition/self-regulation with regard to verbal material (e.g., Porter

et al., 2007) – or simply a desire to interact – may lead to responses that are unnecessarily long or garrulous and, as a function of this, characterized by a high level of irrelevant information. Practitioners may find it useful to ensure that the child is not only aware of what type of information is required from them, but also that they are periodically reminded of this. Such contextual reinforcement will help children to not only stay 'on track' but also plan and structure their responses appropriately.

Some children with WS may also, as a function of heightened sociability, try to 'turn the tables' and ask the interviewer questions that are irrelevant. While this may prove useful in establishing a rapport and reducing anxiety, efforts should again be made to remind children why they are there and what is required from them. Social motivation may also lead them to be keen to give the perceived desired response to interviewers, at the possible expense of factual accuracy. Any such tendency is especially relevant when the usage of deliberately misleading questions in cross-examination is considered. Intermediaries are recommended to ensure that communication misunderstandings are avoided and the relevance and focus of interviews is maintained.

Summary: Children with Williams Syndrome

- WS is characterized by mild to moderate ID, and an uneven pattern of abilities, namely a relative strength in verbal skills alongside marked non-verbal difficulties.
- Therefore, individuals with WS, when being interviewed or cross-examined, may find it easier to remember verbal material than material of a visual or spatial nature.
- Face recollection may also be a strength for those with WS.
- Those with WS are often described as sociable, talkative, empathic, and uninhibited. Although these characteristics may facilitate interviews, professionals should be aware of the heightened anxiety that has frequently been associated with WS and which might become a factor in very formal situations. Children and young people with WS can also suffer from hyperactivity which may make interviews challenging.
- Despite the documented verbal strengths of those with WS and a tendency to present well in social and conversational situations, the factual accuracy of their recollections has not been systematically assessed and may be over-rated.
- Children and young people with WS may give responses that are unnecessarily long, garrulous, and/or irrelevant.

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- Intermediaries may be a very useful aid to communication for children and young people with WS, by helping to keep interviews focused on relevant information and alerting interviewers/practitioners to occasions when superficially good language skills may hide a lack of understanding.

CONCLUSIONS

Research shows that individuals with ID and developmental disorders associated with ID do not often get their day in court (Kebbell & Hatton, 1999). Although we do not have extensive research evidence in relation to the witnessing skills of individuals with specific developmental disorders associated with ID, research among populations of children with non-specific ID suggests that they are able to provide accurate detail at least in line with typically developing children of the same mental age (Henry & Gudjonsson, 1999, 2003). They also appear to be broadly as able as their peers to resist cross-examination (Bettenay, 2010). Using other available literature, we have made some inferences concerning useful measures that could be taken with children who have specific developmental disorders in addition to ID. The key general points to emerge were as follows:

- Wherever possible, interviewers should establish the nature and extent of the person's ID beforehand, as well as determining whether a specific developmental disorder has been diagnosed. This will guide the style, speed, and nature of the interview and perhaps highlight the need for extra precautions to be taken.
- Most children with ID, if not all, would benefit from the presence of a support person, ideally an intermediary, as many children and young people with ID have communication difficulties.
- Interviewers should not make negative assumptions about the abilities of a child or young person based solely on their having ID. The research reviewed here suggests that children and young people with ID can recall forensically relevant information. When interviewing any child or young person with ID, adherence to the ABE (2007) guidelines is essential. Beginning with free narrative, gradually increasing the specificity of the questions and avoiding repeated questions helps to produce the most accurate accounts.
- Children and young people with ID and specific developmental disorders present with different profiles of cognitive abilities and disabilities even where they share the same IQ score. These cognitive

- (and also relevant social and behavioural) factors should be taken into account in planning interviews.
- Employing additional straightforward measures will increase the effectiveness of the interview, such as:
 - using simple sentences;
 - avoiding leading questions;
 - allowing extra time for responses;
 - avoiding the introduction of abstract ideas; and
 - resisting the temptation to interrupt.
 - Interviewers should prepare the environment wherever possible to avoid distractions, and allow for shorter interview sessions.

Great strides have been made in the last 15 years with regard to gathering evidence from children, and some progress has been made with children who have ID. However, further research, particularly in assessing the performance of children with specific developmental disorders, would consolidate our knowledge and provide practitioners with an empirical basis on which to structure their interviews with children depending upon their particular profile of abilities and disabilities.

REFERENCES

- Agnew, S., & Powell, M. (2004). The effect of intellectual disability on children's recall of an event across different question types. *Law and Human Behavior*, 28, 273-294.
- Agnew, S.E., Powell, M.B., & Snow, P.C. (2006). An examination of the questioning styles of police officers and caregivers when interviewing children with intellectual disabilities. *Legal and Criminological Psychology*, 11, 35-53.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th edn, text revised). Washington, DC: APA.
- Anderson, M. (2001). Annotation: Conceptions of intelligence. *Journal of Child Psychology and Psychiatry*, 42, 287-298.
- Baron-Cohen, S. (2002). Is Asperger syndrome necessarily viewed as a disability? *Focus on Autism and Other Developmental Disabilities*, 17, 186-191.
- Barron, P., Hassiotis, A., & Banes, J. (2004). Offenders with intellectual disability: A prospective comparative study. *Journal of Intellectual Disability Research*, 48, 69-76.
- Bellugi, U., Bihrl, A., Neville, H., Jernigan, T., & Doherty, S. (1992). Language, cognition, and brain organization in a neurodevelopmental disorder. In M. Gunnar & C. Nelson (Eds), *Developmental Behavioral Neuroscience* (pp. 201-232). Hillsdale, NJ: Lawrence Erlbaum.
- Bellugi, U., Lichtenberger, L., Jones, W., Lai, Z., & St George, M. (2000). The neurocognitive profile of Williams syndrome: A complex pattern of strengths and weaknesses. *Journal of Cognitive Neuroscience*, 12(1), 7-29.

- Bellugi, U., Wang, P.P., & Jernigan, T. (1994). Williams syndrome: An unusual neuropsychological profile. In S.H. Broman & J. Grafman (Eds), *Atypical Cognitive Deficit in Developmental Disorders: Implications for Brain Function* (pp. 23-56). Hillsdale, NJ: Lawrence Erlbaum.
- Bettenay, C. (2010). Memory of children under cross-examination with and without intellectual disabilities. Unpublished doctoral dissertation. London South Bank University, UK.
- Bihrie A.M., Bellugi, U., Delis, D., & Marks, S. (1989). Seeing either the forest or the trees: Dissociation in visuospatial processing. *Brain and Cognition*, 11(1), 37-49.
- Brown C.L., & Geiselman R.E. (1990). Eyewitness testimony of mentally retarded: Effect of the cognitive interview. *Journal of Police and Criminal Psychology*, 6, 14-21.
- Brown, H., & Stein, J. (1998) Implementing Adult Protection Policies in Kent and East Sussex. *Journal of Social Policy*, 27, 371-396.
- Brown, J.H., Johnson, M.H., Paterson, S.J., Gilmore, R., Longhi, E., & Karmiloff-Smith, A. (2003). Spatial representation and attention in toddlers with Williams syndrome and Down syndrome. *Neuropsychologia*, 41, 1037-1046.
- Bruck, M., London, K., Landa, R., & Goodman, J. (2007). Autobiographical memory and suggestibility in children with autism spectrum disorder. *Development and Psychopathology*, 19, 73-95.
- Caselli, M.C., Monaco, L., Trasciani, M., & Vicari, S. (2008). Language in Italian children with Down syndrome and with Specific Language Impairment. *Neuropsychology*, 22, 27-35.
- Cederborg, A.C., Danielsson, H., La Rooy, D., & Lamb, M.E. (2009). Repetition of contaminating question types when children and youth with intellectual disabilities are interviewed. *Journal of Intellectual Disability Research*, 53(5), 440-449.
- Chapman, R.S. (1995). Language development in children and adolescents with Down syndrome. In P. Fletcher & B. MacWhinney (Eds), *Handbook of Child Language* (pp. 641-663). Oxford: Blackwell Publishers.
- Chapman, R.S., & Hesketh, L. (2000). The behavioural phenotype of Down syndrome. *Mental Retardation and Developmental Disabilities Research Review*, 6, 84-95.
- Chapman, R.S., Schwartz, S.E., & Kay-Raining Bird, E. (1991). Language skills of children and adolescents with Down syndrome: I: Comprehension. *Journal of Speech and Hearing Research*, 34, 1106-1120.
- Chapman, R.S., Seung, H., Schwartz, S.E., & Kay-Raining Bird, E. (1998). Language skills of children and adolescents with Down syndrome: II: Production. *Journal of Speech, Language, and Hearing Research*, 41, 861-873.
- Clare, I.C.H., & Gudjonsson, G.H. (1995). The vulnerability of suspects with intellectual disabilities during police interviews: A review and experimental study of decision making. *Mental Handicap Research*, 8, 110-128.
- Coe, D.A., Matson, J.L., Russell, D.W., Slifer, K.J., Capone, G.T., Baglio, C., & Stallings, S. (1999). Behavior problems of children with Down syndrome and life events. *Journal of Autism and Developmental Disorders*, 39, 149-156.
- Cuskelly, M., & Dadds, M. (1992). Behavioural problems in children with Down's syndrome and their siblings. *Journal of Child Psychology and Psychiatry*, 33(4), 749-761.
- Dahle, A., & McCollister, F. (1986). Hearing and otologic disorders in children with Down syndrome. *American Journal of Mental Deficiency*, 90, 636-642.

- Davies, M., Udwin, O., & Howlin, O. (1998). Adults with Williams syndrome. Preliminary study of social, emotional and behavioural difficulties. *British Journal of Psychiatry*, 172, 273-276.
- Dent, H. (1986). An experimental study of the effectiveness of different techniques of questioning mentally handicapped child witnesses. *British Journal of Clinical Psychology*, 25, 13-17.
- Deruelle, C., Mancini, J., Livet, M.O., Casse-Perrot, C., & de Schonen, S. (1999). Configural and local processing of faces in children with Williams syndrome. *Brain and Cognition*, 41(3), 276-298.
- Durand, V. (2005). Past present and emerging directions in education. In D. Zager (Ed.), *Autism Spectrum Disorder: Identification, Education, and Treatment* (3rd edn, pp. 89-109). Hillsdale, NJ: Erlbaum.
- Dykens, E.M. (2003). The Williams syndrome behavioral phenotype: The 'whole person' is missing. *Current Opinion in Psychiatry*, 16(5), 523-528.
- Ellis, N.R. (1969). A behavioural research strategy in mental retardation: Defence and critique. *American Journal of Mental Deficiency*, 73, 557-567.
- Emerson, E., Hatton, C., Felce, D., & Murphy, G. (2001). *Learning Disabilities: The Fundamental Facts*. London: Foundation for People with Learning Disabilities.
- Epstein, C.J. (1989). Down syndrome. In C.R. Scriver, A.L. Beaudet, W.S. Sly, & P. Valle (Eds), *The Metabolic Basis of Inherited Disease* (pp. 291-396). New York: McGraw-Hill.
- Ericson, K., & Isaacs, B. (2003). Eyewitness identification accuracy: A comparison of adults with and those without intellectual disabilities. *Mental Retardation*, 41(3), 161-173.
- Ericson, K., & Perlman, N. (2001). Knowledge of legal terminology and court proceedings in adults with developmental disabilities. *Law and Human Behavior*, 25, 529-545.
- Fombonne, E. (2002). Epidemiological trends in rates of autism. *Molecular Psychiatry*, 7, 4-6.
- Fowler, A.E. (1995). Linguistic variability in persons with Down syndrome. In L. Nadel and D. Rosenthal (Eds), *Down Syndrome: Living and Learning in the Community*. New York: Wiley.
- Fowler, A.E. (1998). Language in mental retardation: Associations with and dissociations from general cognition. In J.A. Burack, R.M. Hodapp, & E. Zigler (Eds), *Handbook of Mental Retardation and Development* (pp. 290-333). Cambridge: Cambridge University Press.
- Fowler, A.E., Gelman, R., & Gleitman, L., (1994). The course of language learning in children with Down syndrome. In H. Tager-Flusberg (Ed.), *Constraints on Language Acquisition: Studies of Atypical Children*. Hillsdale, NJ: Lawrence Erlbaum.
- Gagliardi, C., Frigerio, E., Burt, D.M., Ilaria Cazzaniga, I., Perrett, D.I., & Borgatti, R. (2003). Facial expression recognition in Williams syndrome. *Neuropsychologia*, 41, 733-738.
- Goldacre, M.J., Wotton, C.J., Seagroatt, V., & Yeates, D. (2004). Cancers and immune related diseases associated with Down's syndrome: A record linkage study. *Archives of Disease in Childhood*, 89(11), 1014-1017.
- Gordon, B.N., Jens, K.G., Hollings, R., & Watson, T.E. (1994). Remembering activities performed versus those imagined: Implications for testimony of children with mental retardation. *Journal of Clinical Child Psychology*, 23, 239-248.

- Grandin, T., & Scariano, M. (1986). *Emergence; Labelled Autistic*. New York: Warner Books.
- Gudjonsson, G.H., Clare, I., Rutter, S., & Pearse, J. (1993). *Persons At Risk During Interviews in Police Custody: The Identification of Vulnerabilities*. London: Royal Commission Criminal Justice, HMSO.
- Gudjonsson, G.H., & Gunn J. (1982). The competence and reliability of a witness in a criminal court. *British Journal of Psychiatry*, 141, 624-627.
- Gudjonsson, G.H., Murphy, G.H., & Clare, I.C.H. (2000). Assessing the capacity of people with intellectual disabilities to be witnesses in court. *Psychological Medicine*, 30, 307-314.
- Harris, J.C. (2006). *Intellectual Disability: Understanding its Development, Causes, Classification, Evaluation and Treatment*. Oxford: Oxford University Press.
- Henry, L.A., & Gudjonsson, G.H. (1999). Eyewitness memory and suggestibility in children with mental retardation. *American Journal on Mental Retardation*, 104, 491-508.
- Henry, L.A., & Gudjonsson, G.H. (2003). Eyewitness memory, suggestibility and repeated recall sessions in children with mild and moderate intellectual disabilities. *Law and Human Behavior*, 27, 481-505.
- Henry, L.A., & Gudjonsson, G.H. (2004). The effects of memory trace strength on eyewitness recall in children with and without intellectual disabilities. *Journal of Experimental Child Psychology*, 89, 53-71.
- Henry, L.A., & Winfield, J. (2010). Working memory and educational achievement in children with intellectual disabilities. *Journal of Intellectual Disability Research*, 54, 354-365.
- Hershkovitz, I., Lamb, M.E., & Horowitz, D. (2007). Victimization of children with disabilities. *American Journal of Orthopsychiatry*, 77(4), 629-635.
- Hobson, R.P. (1993). The emotional origins of social understanding. *Philosophical Psychology*, 6(3), 227-249.
- Home Office. (2007). *Achieving Best Evidence in Criminal Proceedings: Guidance on Interviewing Victims and Witnesses, and Using Special Measures*. London: Home Office.
- Howlin, P., & Moore, A. (1997). Diagnosis in Autism: A survey of over 1200 patients in the UK, *Autism*, 1, 135-162.
- Jarrold C., & Baddeley A.D. (1997). Short-term memory for verbal and visuo-spatial information in Down's syndrome. *Cognitive Neuropsychiatry*, 1, 101-122.
- Jarrold, C., Baddeley, A.D., & Hewes, A.K. (1999). Genetically dissociated components of working memory: Evidence from Down's and Williams' syndrome. *Neuropsychologia*, 37, 637-651.
- Jarrold, C., Baddeley, A.D., & Hewes, A.K. (2000). Verbal short-term memory deficits in Down syndrome: a consequence of problems in rehearsal? *Journal of Child Psychology and Psychiatry*, 41, 233-244.
- Jens, K.G., Gordon, B.N., & Shaddock, A.J. (1990). Remembering activities performed versus imagined: A comparison of children with mental retardation and children with normal intelligence. *International Journal of Disability, Development and Education*, 37, 201-213.
- Johanson, A., Gustafson, L., Brun, A., Risberg, J., Rosen, I., & Tideman, E. (1991). A longitudinal study of dementia of Alzheimer type in Down's syndrome. *Dementia*, 2, 159-168.

- Jolliffe, T., & Baron-Cohen, S. (1999). A test of central coherence theory: Linguistic processing in high-functioning adults with autism or Asperger's syndrome – is local coherence impaired? *Cognition*, 71, 149–185.
- Jones, W., Bellugi, U., Lai, Z., Chiles, M., Reilly, J., Lincoln, A., & Adolphs, R. (2000). Hypersociability in Williams syndrome. *Journal of Cognitive Neuroscience*, 12, 30–46.
- Jordan, R.R. (2008). Practical implications of memory characteristics in autistic spectrum disorders. In J. Boucher & D. Bowler (Eds), *Memory in Autism: Theory and Evidence* (pp. 293–310). Cambridge: Cambridge University Press.
- Judicial Studies Board. (2008). *Equal Treatment Bench Book*. London: Judicial Studies Board.
- Kebbell, M.R., & Hatton, C. (1999). People with mental retardation as witnesses in court: A review. *Mental Retardation*, 37(3), 179–187.
- Kebbell, M.R., Hatton, C., & Johnson, S.D. (2004). Witnesses with intellectual disabilities in court: What questions are asked and what influence do they have? *Legal and Criminological Psychology*, 9, 1–13.
- Kent, L., Evans, J., Paul, M., & Sharp, M. (1999). Comorbidity of autistic spectrum disorders in children with Down syndrome. *Developmental Medicine and Child Neurology*, 41, 153–158.
- Kittler, P.M., Krinsky-McHale, S.J., & Devenny, D.A. (2007). Dual-task processing as a measure of executive function: a comparison between adults with Williams and Down syndromes. *American Journal on Mental Retardation*, 113, 117–132.
- Korenberg, J.R., Bradley, C., & Distech, C.M. (1992). Down syndrome: Molecular mapping of the congenital heart disease and duodenal stenosis. *American Journal of Human Genetics*, 50, 294–302.
- Laskari, A., Smith, A., & Graham, J. (1999). Williams–Beuren syndrome: an update and review for the primary physician. *Clinical Pediatrics*, 38, 189–208.
- Leippe, M.R. (1980). Effects of integrative and memorial processes on the correspondence of eyewitness accuracy and confidence. *Law and Human Behaviour*, 4, 261–274.
- Lin, L.P., Yen, C.F., Kuo, F.Y., Wu, J.L., & Lin, J.D. (2009). Sexual assault of people with disabilities: Results of a 2002–2007 national report in Taiwan. *Research in Developmental Disabilities*, 30, 969–975.
- Lyon, T.D., & Saywitz, K.J. (1999). Young maltreated children's competence to take the oath. *Applied Developmental Science: Special issue: New research on child witnesses*, 1, 3(1), 16–27.
- MacNeil, B.M., Lopes, V.A., & Minnes, P.M. (2009). Anxiety in children and adolescents with Autism Spectrum Disorders. *Research in Autism Spectrum Disorders*, 3, 1–21.
- Martin, I., & McDonald, S. (2003). Weak coherence, no theory of mind, or executive dysfunction? Solving the puzzle of pragmatic language disorders. *Brain and Language*, 85(3), 451–466.
- Matson, J.L., Nebel-Schwalm, M., & Matson, M.L. (2007). A review of methodological issues in the differential diagnosis of autism spectrum disorders in children. *Research in Autism Spectrum Disorders*, 1, 38–54.
- Matson, J.L., & Shoemaker, M. (2009). Intellectual disability and its relationship to autism spectrum disorders. *Research in Developmental Disabilities*, 30, 1107–1114.

- McCrory, E., Henry, L.A., & Happe, F. (2007). Eyewitness memory and suggestibility in children with Asperger syndrome. *Journal of Child Psychology and Psychiatry*, 48, 482-489.
- Mencap. (1999). *Living in Fear*. London: Mencap.
- Michel, M.K., Gordon, B.N., Ornstein, P.A., & Simpson, M.A. (2000). The abilities of children with mental retardation to remember personal experiences: Implications for testimony. *Journal of Clinical Child Psychology*, 29, 453-463.
- Milne, R. (2000). Interviewing children with learning disabilities. In A. Memon & R. Bull (Eds), *Handbook of the Psychology of Interviewing* (pp. 165-180). West Sussex, UK: Wiley and Sons.
- Morris, C.A., Demsey, S., Leonard, C., Dilts, C., & Blackburn, B. (1988). Natural history of Williams syndrome: Physical characteristics. *Journal of Pediatrics*, 113, 318-326.
- Morris, C.A., & Mervis, C.B. (1999). Williams syndrome. In S. Goldstein, & C.R. Reynolds (Eds), *Handbook of Neurodevelopmental and Genetic Disorders in Children* (pp. 555-590). New York: Guilford Press.
- Nadal, M., Milà, M., Pritchard, M., Mur, A., Pujals, J., Blouin, J., Antonarakis, S.E., Ballesta, F., & Estivill, X. (1996). YAC and cosmid FISH mapping of an unbalanced chromosomal translocation causing partial trisomy 21 and Down syndrome. *Human Genetics*, 4, 460-466.
- Numminen, H., Service, E., Ahonen, T., & Ruoppila, I. (2001). Working memory and everyday cognition in adults with Down's syndrome. *Journal of Intellectual Disability Research*, 45, 157.
- O'Kelly, C.M.E., Kebbell, M.R., Hatton, C., & Johnson, S.D. (2003). When do judges intervene in cases involving people with learning disabilities? *Legal and Criminological Psychology*, 8, 229-240.
- Peoples, R., Franke, Y., Wang, Y., Perez-Jurado, L., Paperna, T., Cisco, M., & Francke, U. (2000). A physical map, including a BAC/PAC clone contig, of the Williams-Beuren syndrome deletion region at 7q11.23. *American Journal of Human Genetics*, 66, 47-68.
- Pennington, B.F., Moon, J., Edgin, J., Stedron, J., & Nadel, L. (2003). The neuropsychology of Down syndrome: Evidence for hippocampal dysfunction. *Child Development*, 74, 75-93.
- Perlman N.B., Ericson K.I., Esses V.M., & Isaacs B.J. (1994) The developmentally handicapped witness: Competency as a function of question format. *Law and Human Behavior*, 18, 171-187.
- Plotnikoff, J., & Woolfson, R. (2004). *In Their Own Words: The Experiences of 50 Young Witnesses in Criminal Proceedings*. London: NSPCC.
- Porter, M.A., & Coltheart, M. (2005). Cognitive heterogeneity in Williams syndrome. *Developmental Neuropsychology*, 27(2), 275-306.
- Porter, M.A., Coltheart, M., & Langdon, R. (2007). The neuropsychological basis of hypersociability in Williams and Down syndromes. *Neuropsychologia*, 45, 2839-2849.
- Rasmussen, P., Börjesson, O., Wentz, E., & Gilberg, C. (2001). Autistic disorders in Down syndrome: background factors and clinical correlates. *Developmental Medicine and Child Neurology*, 43, 750-754.
- Reeves, R.H., Baxter, L.L., & Richtsmeier, J.T. (2001). Too much of a good thing: Mechanisms of gene action in Down syndrome. *Trends in Genetics*, 17, 83-88.

- Zajac, R., & Hayne, H. (2003). I don't think that's what really happened: The effect of cross examination on the accuracy of children's reports. *Journal of Experimental Psychology: Applied*, 9, 187-195.
- Zigler, E. (1969) Developmental versus difference theories of mental retardation and the problem of motivation. *American Journal of Mental Deficiency*, 73, 536-556.