Can we believe what children tell us?

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It’s a great honour to be able to give the Howard Williams Oration. When I looked at the distinguished list of previous orators, it made me approach the task with some trepidation. But I also approached it with delight because Howard Williams had been a great encouragement to me in my early years and this is an opportunity to acknowledge his contribution to Australian paediatrics.

I want to start with what I have learned about child abuse, particularly the long-term consequences, how recent research is starting to provide an explanation for some of the things we have observed in the past and then move to the topic of this presentation, ‘Can we believe what children tell us?’

The effects of physical abuse and neglect

My interest in the effects of child abuse and neglect started 38 years ago in 1969 when, as a paediatric registrar, I saw quite a lot of children admitted to hospital with non-organic failure to thrive. I was impressed by the poverty of their family life and by the fact that, when admitted to hospital for investigation, they often gained weight rapidly. This became part of a longitudinal study of this group of children over the next 12 years.1,2

These studies showed that, compared with a group of controls matched for socio-economic status, the children who had been admitted to hospital with non-organic failure to thrive in infancy had more antisocial behaviour, lower levels of social maturity, much poorer reading skills and lower verbal IQ. These differences persisted after 12 years. We also found a link between non-organic failure to thrive and serious physical abuse, with two of our original group of 30 having been killed by their parents or caretakers and three others suffering significant injuries.3

Why did lack of nutrition and lack of care and stimulation in infancy have such long-lasting effects? These children weren’t grossly undernourished, so it was unlikely to be long-term effects from early nutritional deprivation. Other researchers had found similar results,4 but at that time there was no clear explanation.

By the 1970s, there was a growing awareness of the extent of child physical abuse. As the newest and most junior physician on the staff, I was asked to look after the abused children, largely because few others wanted to. It was an opportunity to study them as well as to care for them.

When we followed a group of 56 physically abused children over 6 years, we found that, compared with matched controls, the abused children had lower self-esteem, made fewer friends, were less ambitious, were more subdued, cautious and inhibited in their interpersonal relationships and had more behaviour problems.5 They also had poorer verbal language development, lower reading ages and were significantly lower than controls on all three scales of the Wechsler intelligence test.6

What was the reason for these marked differences? Why were their IQs lower than matched controls? Most had suffered bruising and fractures, but very few had significant head injuries. The ongoing personality problems were easier to understand, as most remained in their families, families which were often highly dysfunctional, but the neurological effects were more difficult to understand.

The effects of sexual abuse

In the early 1980s we started to see large numbers of sexually abused children, boys as well as girls. This led to a longitudinal study where we looked at a group of 183 sexually abused girls and boys at the time of presentation and followed them and a control group at several points over the next 9 years.7–13

We found a range of difficulties. At 9 years, some were doing well but, compared with the controls, as a group these young people (now aged between 14 and 24 years) were likely to be more depressed, have feelings of despair, have more behaviour problems, more pregnancies, lower self-esteem and were more likely to be drug users and to have had more adverse life events.13 Suicide and death were more common. Of the 183 original subjects, three had committed suicide, one had been murdered, one had died from a drug overdose and one death had been from an HIV-related illness. There were no deaths among the controls.12

Criminal behaviour was also more common in the group who had been sexually abused. Eighteen (10%) of the 183 subjects had a criminal record at the 9-year review, compared with one member of the control group.15 None of these convictions were for sexual offences. Ten of the 18 convictions were for violent crimes, suggesting an ongoing residue of anger and poor impulse control.

What was explanation for these long-term effects seen in children who have suffered non-organic failure to thrive, physical abuse and sexual abuse? The original incidents themselves don’t seem to provide sufficient explanation. There seems to have been some change in these infants and children which influenced the way their brains functioned and the way their personalities developed. This change may have been brought about in part by the abuse but is also likely to have been
influenced by the early environment which set the stage for the abuse, as well as perhaps by subsequent events.

**Recent research provides some clues**

Fifty years of studies on rats have shown that the quality of early care profoundly influences brain development and that it can also regulate gene expression, but does this apply to humans?

In recent years there has been a vast increase in our understanding of how the early years can influence development to the point of influencing neural function and brain morphology. This is well summarised in a review article published earlier this year.

Recent studies of children in orphanages suggest that low morning cortisol levels may reflect ongoing neglect. This is probably because, although neglect and abuse initially increase cortisol levels, chronic abuse and neglect may result in a change in cortisol set points and a down-regulation of the hypthalamic-pituitary axis. We also know that low morning cortisol levels in these children may remit with improved care.

Brain structure and function may also be affected. In 2003, it was shown that women who had experienced abuse in childhood may have smaller hippocampal volumes.

In March this year, a small, preliminary longitudinal study appeared, showing that childhood abuse can effect hippocampal volume, probably as a result of the glucocorticoid response to stress. These authors studied a group of 18 children, aged 8–14 years, who had all suffered post-traumatic stress disorder as a result of multiple trauma including sexual abuse, emotional abuse and neglect. Baseline cortisol levels were taken and hippocampal volume was measured by MRI. Twelve to 18 months later, when the studies were repeated, it was found that there was a correlation between the severity of post-traumatic stress disorder and high cortisol levels at baseline and subsequent reduction in hippocampal volume.

These and other studies on brain morphology, as well as cortisol studies showing the effects of stress on the hypothalamic-pituitary axis, are starting to provide clues for a biological explanation for what earlier clinical studies showed: that early maltreatment increases the risk for later emotional, behavioural and intellectual problems. There is still much that is unknown or uncertain, but these emerging themes suggest that the next few years are going to be exciting for those who work in this area.

**Can we believe children?**

This leads to the subject of the title for this presentation: “Can we believe what children tell us?” The somewhat tenuous link is of course, the hippocampus, which has a functional role in memory processing.

In child sexual abuse allegations, memory is crucial. The sexual abuse of a child is done in secret. Usually only two people know what happened: the perpetrator and the child. When a child discloses abuse, the child is questioned, which is appropriate, but when the case goes to court it may be 6 months to a year before the case is heard. For a 4-year-old child, a delay of a year represents 25% of her life.

In court, the child will be questioned on central information (e.g. what happened to you?) and may also be questioned on peripheral information (e.g. what was the colour of the curtains in the room where this happened?) If she can’t recall the peripheral details there is a risk that this may be used to discredit her as an unreliable witness.

For those of us who have had to give evidence in court, three things stand out: it’s a strange environment for us where we aren’t in control, it’s clear that lawyers don’t know much medicine and it also becomes clear that we know very little about the legal process and the way lawyers think. Medicine and law are totally different disciplines which have different thought processes.

Imagine how difficult this must be for a child. We usually go to court to advise the court about a complex issue, as respected medical experts. But the child is there to tell her story, a story which will then be disputed by others who are far more sophisticated and who have far greater language skills.

**Common misconceptions about children’s memory**

What do people believe about children’s memory? Imagine that you have just bought a new car and that the next day, while it was parked, someone took a nail and scratched through the paintwork, along both sides and across the bonnet. Fortunately for you there were two witnesses, an 8-year-old boy and a 62-year-old man. Who would you prefer to give evidence on your behalf in court? Most people would choose the adult, even though some 62-year-old adults may have early Alzheimer’s disease, or may be heavily medicated for a mental health disorder or may even be alcoholic with Wernicke’s encephalopathy. You are not alone in your choice. The belief that children are unreliable witnesses and can’t be trusted is widespread in the community.

Yarmey and Jones asked several groups to give their opinion of how an 8-year-old child would respond to questions by police or in court. The groups included law students, legal professionals, citizens who were potential jurors and psychologists interested in eyewitness memory. Less than 50% in any of the groups felt that the child would respond accurately. Sixty-nine per cent of potential jurors believed that the child would respond the way the questioner wished, a view held by 82% of the psychologists. This view was confirmed in a study where a group of adults was given a written description of a criminal trial for assault and robbery where the sole witness was either a 6-year-old or a 30-year-old. The adults rated the child’s evidence as less credible than the evidence presented by the adult, even though the child’s and the adult’s evidence was identical.

However, these views are in conflict with a substantial body of research comparing children’s and adults’ memories. This has shown that one of the most robust findings in research on children’s memory is that children from 6 years of age and up are as accurate as adults in recalling events and no more suggestible than adults when those memories are questioned.

It is not quite as clear-cut in younger children. While the evidence is clear that from 6 years and up, children are accurate
witnesses and are no more easily influenced than adults, it’s harder for children under 6 years old. When questioned, they give less information spontaneously, although what they do remember is accurate. However, they are more susceptible to highly leading and suggestive questions.\textsuperscript{23} This is why it is so important that questioning is done in a way which helps the child, rather than confuses the child.

Do children tell the truth?

Are children truthful? Do they tell lies? Of course they do. It would be just as unrealistic to say that children are always truthful as it would be to say that adults are always truthful. The point is that children are not very good liars. Adults are. In fact, adults teach children how to lie when they teach them to keep secrets. Sexual abusers use the ‘keep a secret’ technique with great success when they tell the child they have abused never to tell anyone.

Despite the evidence, it is still widely held that children can be maliciously untruthful or can be easily manipulated to say whatever the interviewer wants. Lawyers who studied the 1984 text, ‘Evidence: Cases and Materials’ would have seen this quote:

Children are prone to live in a make-believe world so that they magnify incidents which happened to them or invent them completely...they are very suggestive and can easily be influenced by adults and the children...they may consent to sexual offences against themselves and then deny consent. They may completely invent sexual offences.\textsuperscript{24}

So although the research shows that children from 6 years of age are just as reliable in memory and no more easily influenced than adults to make up, or change their stories, the perceptions of lay people and other professional groups are clearly out of line with the evidence.

How does memory work? Memory is not like a video recorder. What we remember is not necessarily always an accurate representation of past events. Memory involves three phases. The first, encoding, occurs when an experience is registered in memory. Not all experiences are encoded. Events are more likely to be encoded if they fit with our prior experience, if they can be linked to something already in our memory or if they are important, interesting or valuable to us. Following encoding the event is stored in our short-term memory, with some of this information then being transferred to long-term memory. Intervening experiences may help solidify the memory, but at other times, they may compete with it. Subsequent events, or our opinions can influence memory during storage so that the memory of an event may become more in line with our expectations and attitudes.

The final stage of memory is retrieval. Various factors can assist retrieval such as cues, or taking the subject back to the place where the event occurred.

So what we remember does not always come directly from the original stored memory. We may alter our memory of an event to fit with our knowledge, our beliefs and our subsequent experiences.

Implanting false memories

In view of this, is it possible to deliberately implant false ideas into memory? Loftus and Pickrell\textsuperscript{25} gave 24 adults information about four ‘events’ from the childhoods of those adults. Three of these events actually happened, but one event (becoming separated from a parent and ‘lost’ while shopping) was false. When the adults were later questioned about their memories of these four childhood events, seven adults (28%) ‘recalled’ the false event. Becoming lost while shopping is a plausible event. False events which are plausible are more likely to be incorporated into memory than implausible events. This was demonstrated when 39 children were told about four ‘events’ from their childhood. Two of these events were true and two were false. One of the false events was plausible (becoming lost at the shops) and one was implausible (having a rectal enema). When the children were asked to recall details of each event, over half the children could not recall either false event. However, three younger children (5–7 years of age) ‘recalled’ both of the false events. Fifteen children ‘recalled’ one false event, only one of these being the implausible event.\textsuperscript{26}

These studies suggest that people of all ages are susceptible to recalling events which did not occur. Plausible events (which fit with our knowledge and experiences) are more likely to be incorporated into memory than implausible events. Children under 6 or 7 years appear to be the most susceptible.

Do children lie about sexual abuse?

But does this mean that young children will invent stories of child sexual abuse? Few things polarise opinion as much as child sexual abuse allegations. We’ve already seen that there is a fairly widespread belief that children are thought to be prone to fantasy and to inventing stories. What is the evidence in sexual abuse allegations?

A review of 551 child sexual abuse notifications found that there were 14 (2.5%) erroneous accounts by children. Analysis of these 14 accounts showed that three were made in collusion with a parent, in three cases the child was confused or misinterpreted the event and in eight cases (1.5% of the sample), there were definite false allegations.\textsuperscript{27}

Recently, a Canadian group published a study of over 7000 child abuse investigations. Within the group there were almost 800 child sexual abuse investigations. In 6% of cases there had been an intentionally false allegation of sexual abuse but none of these reports had been made by children.\textsuperscript{28}

Although false reports by children are uncommon, there is a much greater problem with the truth in child sexual abuse cases. This is the problem of children being reluctant or afraid to say what has really happened to them. Sometimes they never tell. At other times it may take years before they feel confident enough to tell their story. Delayed disclosure of sexual abuse is normal. It is not an indication that the story is fabricated.

Why are children so often discredited and why do they make such poor witnesses in court? To understand this we have to understand the linguistic abilities and limitations of young children. We all know how easily miscommunication can occur, even between intelligent adults. Our professional and personal lives would be much simpler if we didn’t have to spend so much
time sorting out problems which occur because of basic errors of communication.

**Children’s linguistic abilities**

Although children 5–7 years old have sufficient language to participate in everyday conversation, they often can’t understand complex language tasks. They have difficulty in understanding what adults always mean, but they’re reluctant to admit this. They may not even be aware that they don’t understand the question and so they don’t ask for clarification. Preschoolers may misunderstand simple concepts such as ‘forget’. Because their thinking tends to be in the present, ‘I forget’ may just mean ‘I don’t know’, not that they knew before and now can’t remember.

The younger the child, the greater the risk of ambiguity when words are used which sound like words the child knows, but which are quite different. A child might think that to ‘testify’ means taking a test; that ‘jury’ is something that her mother wears; that a ‘court’ is where sport is played and that a ‘case’ is something which is packed for holidays.

**Children in Court**

When children have to go to court, rapport is often not established at the outset. Sometimes the child is afraid that she will get into trouble (most children know that courts have something to do with people who are in trouble and with punishment) and at times they may be reluctant to say ‘I don’t know’ or ‘I don’t understand’. Open ended questions such as ‘Tell me what happened...’ are not used enough. Instead, suggestive questions which imply a particular answer may be used. Sometimes, it is forgotten that interviewing involves listening as well as asking questions and the child’s answer is interrupted, making the child feel threatened and uncomfortable.

A major problem can occur when adults use vocabulary which is inappropriate to the child’s developmental age. This is a particular problem in court. The use of complex questions such as ‘who else, if anybody’ and ‘with respect to’ are very complicated for young children. Even a question such as ‘now this happened on a Tuesday, did it not’ means that child first has to work out whether this means ‘it did not happen on a Tuesday’, or ‘it did happen on a Tuesday’ before being able to respond. Questions like this confuse children and may lead to the child giving an unreliable answer.

Even simple questions requiring a ‘yes’ or ‘no’ response can cause problems for children. Children are often reluctant to say ‘I don’t know’. If they are forced into a ‘yes/no’ choice, they may say ‘no’ for several reasons. It might be because ‘no’ is the correct response. It might be because they don’t know the answer. This means that they know that ‘yes’ must be wrong and so they answer ‘no’, instead of ‘I don’t know’. Or it might be because they quickly learn that saying ‘no’ might end that line of questioning.

When a child is asked the same question again, she might think ‘I mustn’t have given the right answer. I’ll try to provide some new information.’ This is because young children are co-operative. They see adults as important and may co-operate by making their answers consistent with what they think the adult wants, rather than being consistent with their knowledge of the event. Studies of children who have had to testify in court in child abuse cases show that stress was related to delays in the cases coming to trial, with stress being greater in those cases which were heard in the criminal court than in a juvenile court. An Australian study found that 57% of parents whose sexually abused children testified in court rated their child as still being distressed two and half years later. This compared with continuing stress in 12% of children, whose degree of abuse was similar, but who did not have to testify in court.

Things are improving. Preparation for court programmes are available for many children and recent legal reforms have placed emphasis on ensuring that children are questioned sensitively and that they have appropriate supports.

**How can we help?**

What can be done to help these children? If the fundamental goal of questioning is to uncover the truth, children need to be questioned, from their very first presentation to a health professional, welfare worker or police officer, in a way that is appropriate to their linguistic abilities and which enhances their accuracy of recall. If they are required to give evidence in court, they need to be questioned in ways which help them to relate their experience clearly and truthfully without the type of questions which may confuse or even intimidate them.

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