

Testimony and Evidence: A Scientific Case Study of Memory for Child Sexual Abuse

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SUMMARY

Although case studies can provide insight into children's eyewitness memory, the typical lack of objective record limits evaluation of accuracy. In contrast, in this 'scientific case study', a detailed record of child sexual assault, documented by a 'sex ring' leader and confiscated by police, was available. In police interviews and courtroom hearings, four girls (8 to 15 years old at time of report) testified about sexual exploitation that involved eight adult men. The girls' allegations were compared with evidence contained in photographic and audiotaped records of the abuse. Overall, there was supportive evidence for about 80% of the allegations (85.6% of the alleged sexual acts; 42.9% of the alleged coercive acts; and 82.5% of the alleged preparatory acts). Levels of support for sexual act allegations were similar for all four girls, regardless of age, but the younger child made more unsupported allegations of coercive behaviour. Additionally, there were high levels of omission errors. Findings are discussed in the context of research on eyewitness testimony and child sexual abuse. Copyright © 2000 John Wiley & Sons, Ltd.

Children's ability to provide accurate eyewitness testimony has, in the last 15 years, become a subject of considerable research and debate, at least in part due to dramatic increases in the number of children testifying about sexual assault. Relevant research is, however, hampered because laboratory studies can never mimic the complex conditions present during actual abuse. In this paper we report a unique study of the accuracy of children's testimony. Based on records made during abuse itself, we evaluate the accuracy of child witnesses who testified about their own sexual victimization.

EXPERIMENTAL RESEARCH

Experimental procedures have been used to investigate the effects on child eyewitness testimony of factors such as delay (Salmon and Pipe, 1997), repeated questioning

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(Poole and White, 1991), age (Goodman and Reed, 1986), and suggestive questioning (Leichtman and Ceci, 1995; see Ceci and Bruck, 1993 and Saywitz and Goodman, 1995, for reviews). In these experimental studies, the typical procedure is that a child is exposed to a controlled event, often a play session, and the child is later interviewed to assess the child's memory. The focus of such research is often on the conditions under which children provide false reports of abuse-related events.

Concern that the results obtained through this type of experimental procedure did not address memory for victimization experiences, such as child abuse, led to the study of children's memory for experimentally controlled stressful events (e.g. Bugental *et al.*, 1992; Peters, 1991; Stein and Boyce, 1995). However, such experiments are ethically restricted in the amount of stress that can be imposed, and hence are limited in the conclusions that can be drawn about the impact of severe stress upon memory. To minimize this limitation further, many recent experimental investigations have utilized naturally occurring stressful events. In studies of this type (e.g. Goodman *et al.*, 1991, 1994; Merritt *et al.*, 1994) a full record is made of a naturally occurring stressful event, such as a painful medical procedure, and the child is later interviewed. Studies utilizing naturally occurring events more closely simulate the circumstances found in some child abuse cases, such as pain and high stress levels. However, there are other abuse-related factors, such as secrecy, shame, and lack of emotional support, that cannot be easily simulated in experimental research.

CASE STUDIES

Case studies provide a valuable tool for investigating the role of victim-related factors that cannot be ethically studied in a laboratory context. Terr (1983, 1988, 1991) has made perhaps the most extensive studies of children who have suffered various forms of severe trauma. Her examinations of the memories of these children indicate that they fall into two broad categories: children who suffered a single traumatic experience and children who suffered repeated traumatic events. According to Terr, children in the former category retain clear and accurate memory for the event but children who suffered repeated trauma tend to have poor memory of the events, which Terr suggests is due to repression. Jones and Krugman's (1986) case study of a 3-year-old who was abducted, assaulted, and left to die provided evidence that even very young children can give accurate, though limited, recall following a traumatic event. (For other case studies of children's memory following trauma, see Pynoos and Nader, 1988; Zeanah and Burk, 1984.)

There are, however, drawbacks to case study research. In particular, there is typically a lack of objective, detailed account of what occurred during the event itself. Specifically referring to case studies of sexual abuse, research into child eyewitness testimony is often limited because the children's statements are of unknown accuracy, particularly for fine details. On occasions the perpetrator may provide a full and detailed confession, but the perpetrator's recollection or recounting of events is less than trustworthy. The abuser may have his own agenda.

Rarely, we find a case study where eyewitness testimony about an event is given and, in addition, independent information exists that can be used to check the accuracy of the account. Neisser's (1982) case study examining John Dean's testimony

about conversations he had with Richard Nixon at the time of Watergate is one such study. Dean gave his account of conversations with the president, and some time later tapes of some of those conversations, of which Dean had no knowledge, were made public allowing for a direct comparison between recall and event. Neisser found that Dean's gist memory for the conversations was accurate but his verbatim recall, although stated with confidence, was poor. Similarly, Orbach and Lamb (1999) recently compared a 13-year-old girl's report to the police about child sexual abuse with an audio recording of a sexually abusive event the girl experienced. The girl's memory for the one incident of abuse was found to be highly accurate. The case described in this paper provides another situation where memory, in this instance of several children who suffered sexual abuse, can be compared with documented evidence of what actually occurred. We term such studies 'scientific case studies'.

OUTLINE OF THE PRESENT CASE¹

The following events occurred some time ago in New Zealand. The case broke when the police received a tip-off informing them that a local man was prostituting young girls, and information identifying one of the girls was included. The police located and interviewed the girl, Anne, aged 14, and she told them that she and a small group of other girls were paid by the principal perpetrator, John, to engage in sex acts with him and a group of his adult male acquaintances. She had been involved in this activity for approximately three months. She stated that she was motivated to cooperate with the police because John had shown her a photograph of her 8-year-old neighbour, Mandy, engaged in a sexual act, and although she knew of the participation of two other girls in their early teens, she had until that point been unaware of John's sexual contact with such a young child. Anne named the three local girls whom she knew to be involved sexually with John, and three other girls whom she had seen at John's house but was unsure as to their involvement.

Following the police interview with Anne, police obtained a warrant and searched John's home. When they arrived to execute the warrant, they found Sarah (aged 15) and Paula (13) partially clothed and hiding with John in a back room which contained cameras on tripods and other photographic equipment. They also found several hundred photographs, many of which explicitly depicted sexual acts between adult males and minor girls. Only a portion of the photographs depicted John himself; he was limited in his sexual activity with the girls, mainly due to a physical disability which rendered him largely impotent. Several hundred audiotapes found in his apartment provided further evidence that he arranged sexual acts between the girls and various adult men. Many of these sexual acts were audio recorded. (There was also evidence that he engaged in and had other men engage in sexual activities with elderly women and intellectually disabled women who lived in a residential home nearby, but this evidence was discriminable from the evidence of relevance to the present study.) The seized photographs were used to identify seven additional

¹All names and some other case details have been altered to protect the identity of those involved, but the changes do not affect the scientific data or results.

men who had engaged in sexual activities with one or more of the young girls. One of these men later proved to be the informant who originally tipped off the police. Search warrants turned up further photographs and other evidence in the homes of two of the men.

Each of the girls involved was interviewed by the police. Anne was interviewed the day before the police searched John's home, Sarah and Paula were interviewed immediately following the search, and Mandy later that same day. It was determined by the police that three other girls named by Anne were not involved sexually. Police also interviewed two much younger children, one of whom (aged 4) accused John of molestation when, the day after her mother heard of the police arrests, the mother asked her if John had ever touched her. These two children told the police of being touched, photographed, and shown pornographic movies by John. The parents of these children were unwilling for them to give evidence in court, and no photographic or other corroborative evidence was found.

THE MINORS

It is necessary to provide some details of the sexual victimization of the older four girls in order to understand our coding, analysis, and discussion of the case. Sarah was 14 years old when her sexual involvement with John began. At that point, she had known him for several months. She first met John when she responded to an advertisement in a local newspaper for someone to clean his apartment. John first met each of the girls in this way. Over the months, John's conversations and activities with Sarah became increasingly sexualized. For these sexual acts he paid her money, usually between \$10 and \$30. Sarah, like the other girls, was from a low-income family. She used the money to buy food and clothes.

The audiotaped conversations between John and Sarah show that on a number of occasions, Sarah became very unhappy with the sexual activity and refused to participate further. For several months she refused to sexually engage with John but was prepared to be sexual with his friends (for money). At other times she refused to participate in specific sexual acts, including kissing, with any of the men. At such times, John would threaten or psychologically manipulate her, either with some unspecified physical threat (e.g. 'I have contacts. I wouldn't like to see you get hurt, but I know people') or blackmail (e.g. threatening to show photographs to her mother). She would eventually give in to his demands, but she was determined enough to resist him for long periods.

By the time the case broke, Sarah had had sexual contact with five men. According to her testimony, two of the men, John (57 years old) and Alfred (69 years old), engaged in sexual contact with her approximately weekly for many months. Another, Derek (63 years old), had been sexual with her on several occasions. With each of the other two men, Harold (73 years old) and Michael (27 years old), she and Anne had participated in sexual acts on one occasion.

Anne met John when she was 12 years old. She cleaned his apartment, and he took clothed photographs of her and her friends. She found his sexual advances offensive and ceased going to his apartment. Almost two years later and approximately four months prior to John's arrest, John tricked Sarah, using a faked photograph, into believing Anne was also engaged in sex with the men. Sarah, believing Anne to be

involved, persuaded her to visit John's house on an afternoon when she knew sex was likely to occur. Anne had suspicions that some form of sexual activity took place at John's apartment but she was sexually naive and was unprepared for the sexual activity that followed. Once she was at John's apartment and sexual acts began, she felt unable to leave or resist although she asked to leave, saying that her mother was expecting her home. She was paid for her involvement and began visiting John's apartment regularly. John knew that the money was the primary motivating factor for Anne, and in her absence would refer to her as a 'gold-digger' to the other men.

Anne was sexually involved for approximately three months. She estimated that she had sex at John's house three times each week, on average. John and Alfred were the men she was with most frequently. She had sexual contact with Derek several times, and was sexual once each with Harold, Michael, and three other young men. Over this period, she and Sarah became close friends and began spending much of their spare time together. Both girls began to be sexual with young male acquaintances of their own at this time.

Paula was 12 when she became sexually involved with John. Like the others, she had been cleaning his apartment for some months and he had taken a number of clothed and then nude photographs of her. Over their contact, John actively trained her in sexual practices, for example, by playing her audiotapes to teach her the appropriate sounds she should make during sex.

Unlike the older two girls, Paula frequently sought reassurance from John, asking him whether she was performing adequately, and whether he was pleased with her. She appeared to desire his approval and John manipulated this to obtain her compliance. She often talked of how poor her family was, and the money John and Alfred paid her also provided motivation for her continued participation. Over the five months of her sexual involvement, Paula was regularly sexual with John and also had sexual contact with Alfred.

Mandy is Paula's younger sister and was 8 years old when John began to talk in a sexual manner to her. She also cleaned John's apartment several times and had numerous clothed photographs taken. When John first began to talk sexually to her and he asked for a 'French kiss' she replied 'It's a little pervert to talk about things like that'. John gradually sexualized their contact by talking of sexual things. Over the three months prior to his arrest, John took nude photographs of her and engaged in sexual activities with her. He attempted to have her be sexual with Alfred, but both Mandy and Alfred refused.

THE LEGAL OUTCOMES

The three principal perpetrators pleaded not guilty and their case went to a joint deposition hearing (similar to a grand jury hearing or preliminary hearing in the United States) where all four girls testified. As the jury selection was beginning for John's trial, he accepted a plea bargain of 12–15 years' imprisonment. Nevertheless, the judge instead sentenced him to 10 years (still a long sentence by New Zealand standards), saying that he wanted there to be a possibility of parole in his lifetime. The crown prosecutor on the case felt that the judge believed, at least in part, John's claim that he had been preyed upon by the girls. The other two principal perpetrators

changed their plea to guilty during the deposition hearing. Alfred, who was extensively involved with three of the girls, received a sentence of 9 months' imprisonment. Derek, who was sexual with the oldest two girls on several occasions, was sentenced to three months in prison, a \$300 fine, and one year of probation. The other five men received sentences of between 5 and 60 days' imprisonment and/or fines of between \$200 and \$1000. All those who pleaded not guilty changed their pleas following the girls' testimony.

Although the sentences received by the defendants may seem lenient, they were similar to those in the United States at the time. In New Zealand today, longer sentences would be likely.

The crown prosecutor of the case realized that the evidence might be useful for research purposes. When the case was completed, he contacted one of the authors of this article to tell her of the case and asked whether she was interested in access to the material. He then assisted her in obtaining the required court order.

OVERVIEW

This study examined the evidence given by the four girls, and compared this with the photographic and audiotaped evidence collected by police. Of interest was the level of support for allegations made by the girls, and, in particular, their allegations of sexual activity. It was also possible to compare the level of support for the allegations made by the 8-year-old girl with the levels of support for allegations made by the older girls, to see whether the younger child's testimony was similarly supported and, by inference, similarly accurate.

Allegations that were made but for which no supporting evidence was found (which, at worst, were false allegations but may simply be indicative of incomplete evidence) were also examined. Also of interest was the level of 'omission errors'; acts which the evidence showed occurred but about which no allegations were made.

In addition, the consistency of the girls' testimony across the police interviews and trials was examined, in order to ascertain whether inconsistent allegations were more likely to lack support, consistent with the suggestion that inconsistency is an indicator of inaccuracy in testimony. Similarly, the level of support for the girls' allegations that were made using 'adult language' was examined and compared with the level of support of accusations generally, as the use of adult language is also sometimes used as an indicator of inaccurate testimony.

METHOD

This study examined the testimony of four girls, aged 8, 13, 14, and 15 years old at the time they testified. Each girl gave one police interview and testified at the (combined) deposition hearing of the three principal perpetrators. In addition, the two oldest girls testified at the deposition hearing of another perpetrator, and the 14-year-old testified at the deposition hearing of one other perpetrator. In total, four police interviews and seven deposition hearing testimonies (together referred to as 'testimonies') were coded.

The coding schedule used for the testimonies and the evidence was designed to identify each separate sexual act performed or alleged to have been performed by each of the eight men in relation to each girl. Thus, there were separate coding categories for different sexual acts (such as kissing, fellatio, mutual oral copulation, intercourse). Each of these was further coded according to the adult male who perpetrated the act and the girl upon whom the act was perpetrated. A 'coding unit' therefore refers to a unique combination of perpetrator, act, and victim/victims. The photographing of a sexual act was coded as a separate coding unit. Thus, Alfred having intercourse with Sarah while John took photographs would be scored as two coding units, specifically, the sexual intercourse and the photographing of sexual intercourse.

In total there were 70 different categories of acts that were coded. Forty-three of the categories were sexual in nature. Of these, 28 categories were of sex acts, such as sexual talk, kissing and fellatio, that could have been perpetrated on a victim by any one of the eight men. The other 15 categories of sex acts involved only the girls, with no male perpetrator (other than John taking photographs). Every category coded occurred or was alleged at least once.

Fifteen categories of coercive activity (e.g. paying or promising to pay for sex, paying for photographic sessions) were also coded. Twelve of these were activities that arose only with John, such as various forms of intimidation and bribery, and psychological manipulation.

There were also eight categories that were 'preparative' or facilitatory in nature. These included the girls posing for clothed photographs (which John took before he began to request nude photographs) both alone and with the men, the arranging of sex sessions with the men, discussion of the girls' ages with the men, and taping of the meetings in John's house. The remaining four categories coded (the 'other' acts) were John directing sex sessions with one of the other seven men or with the girls alone, John telling the girls to make sexual sounds and to look happy during sex sessions, and one of the girls contacting John and requesting that he arrange a sex session for money.

Of the 70 categories described above, 42 were categories where the photographing of the act was also coded as a separate coding unit. Thus 112 categories, in total, were coded. Fifty of these involved just the girl or girls, or the girl(s) and John alone. The remaining 62 (most of them sex acts) involved at least one girl and one of the other men as well as John.

There were 11 testimonies, 77 audiotapes, and 623 photographs which were all coded using the same coding schedule as described above. Using the allegations made by the girls in the police interviews and the testimonies, and the photographic and audiotaped evidence, each allegation was able to be scored as either a 'supported allegation' when there was evidence to support the allegation or an 'unsupported allegation' when there was not. An act where there was evidence but no allegation was scored as an 'omission error'. On the few occasions where a girl denied that a certain act occurred with a particular man, if there was no evidence that suggested otherwise it was scored as a 'correct rejection'. If evidence showed that the act did occur, it was scored as an 'incorrect rejection'.

Descriptive statistics were calculated on the acts by grouping them according to type. Thus, sexual acts, coercive acts, preparatory acts and the four 'other' acts were examined separately. To examine whether consistency of allegations is related to the accuracy of allegations, a comparison was made between levels of supportive evidence found for allegations made only once and for those made more than once, for

example at both the police interview and at a deposition hearing. Results are also presented concerning the girls' use of adult language for sexual terms and the effects on the girls' testimony of viewing the photographs.

RESULTS

Reliability

Testimonies

The testimonies were coded by two raters. Because there were only 11 testimonies, training of the coders relied on five randomly chosen testimonies that were coded singly. The coding was compared and discussed after each was completed but before the next was begun. It was agreed that any alteration in the understanding of a detail in the coding schedule that arose from these discussions would necessitate recoding of that detail for the earlier testimonies, and this did occur on two occasions. The inter-rater reliability (proportion agreement) for each of these five testimonies was calculated. The remaining six testimonies were then coded independently and inter-rater reliability was similarly calculated for those. Any disagreements were resolved by discussion.

For the first five testimonies coded singly, reliability across all the acts was 0.86 (range 0.77–0.94). For the six testimonies then coded in a block, reliability was 0.88 (0.77–0.94). Reliability for the four police interviews was 0.89 and for the seven deposition hearing testimonies, reliability was 0.87.

The inter-rater reliability for testimony of sexual acts was 0.86 (0.85 for the police interviews and 0.86 for the deposition hearing testimonies). For coercive acts, reliability was 0.91 (0.88 for the police interviews and 0.94 for the deposition hearing testimonies) and for the preparatory acts, reliability was 0.93 for both the police interviews and the deposition hearing testimonies.

Photographs

The photographs were coded by one coder, employing the same coding schedule as used for the testimony. In approximately 10% of the photographs, identification of either the participant(s) or the activities was difficult. For coding, only photographs where participants were identifiable (using faces or identifying bodily characteristics such as hair colour, body size, scarring) were included, and only if the activity being photographed was also clear.

Six hundred and twenty-three photographs were identifiable and were relevant in that they contained at least one of the girls either alone or with one of the other girls and/or one or more of the men. Of these, 110 had been previously labelled and described by the police (with assistance from the girls) for use as trial evidence and were, therefore, used to test the coder's reliability.

Of the 110 photographs, the coder identified the man, the girl(s), and the act correctly (that is, in accordance with the police) in 101 cases, reaching proportion agreement of 0.92. The nine errors involved three cases where the man was not identifiable, and six cases where partial photographs did not allow accurate assessment of the activity by the coder. All the photographs used for reliability (those labelled by the police) were of sexual activity.

Table 1. Age information and extent of sexual contact for each girl

	Mandy	Paula	Anne	Sarah
Age of girl at beginning of abuse	8	12	13	14
Age of girl at end of abuse	8	13	14	15
Length of sexual involvement with John (months)	2-3	4-5	3-4	14
Number of men with whom sexual contact occurred	1	2	8	5
Number of sexual encounters alleged	Few	20	30-40	100+
Number of sexual encounters with evidence	6	12	22	49
Number of different sexual acts experienced	7	13	14	15

Note: Names of victims have been changed for reasons of confidentiality.

Audiotapes

Several hundred audiotapes were seized by police. One hundred and twelve of these were kept by the police as they contained evidence of illegal acts. Seventy-seven of the tapes contained recordings of one or more of the victims and these tapes were also coded by us using the same coding schedule as described above. Eighteen (23%) of the 77 audiotapes were independently coded by a second coder. The reliability was 0.83 for the sex acts, 0.86 for the coercive activities, and 0.80 for the preparatory acts.

Descriptive statistics

Table 1 shows the number of perpetrators, sexual acts, and sexual encounters for each girl, and Figure 1 the number of coding units alleged either in the hearings or police interviews, and the number of coding units for which evidence was found. The Figure also gives the number of coding units of evidence for which there were no allegations (omissions), the number of allegations unsupported by the evidence, and the number of allegations which were supported by the evidence.

In total, 246 allegations were made in hearings or police interviews or both. There was supportive evidence, either photographic or on audiotape, for 194 (78.9%) of the allegations and the remaining 52 (21.1%) were unsupported. When this is broken down according to type of activity, there was supportive evidence for 85.6% of the 160 alleged sexual acts, 42.9% of the 35 alleged coercive acts (for which audio evidence only was available), 82.5% of the 40 alleged preparatory acts, and 90% of the 10 'other' acts (peripheral acts which included John directing the sexual activity) which were alleged. Both photographic and audiotaped evidence existed for 42.4% of the supported allegations, photographic evidence alone existed for 22.9% of the supported allegations, and audiotaped evidence alone existed for 34.7% of the



Figure 1. Schematic representation of the number of coded units of evidence and allegations

Table 2. Completeness of and support for girls' allegations

	Mandy	Paula	Anne	Sarah
Age at trial	8	13	14	15
Supported allegations	62.5%	74.5%	85.6%	77.8%
Unsupported allegations	37.5%	25.5%	14.4%	22.2%
Supported sex act allegations	80.0%	83.8%	95.1%	75.5%
Unsupported sex act allegations	20.0%	16.2%	4.9%	24.5%
Evidence for act, no allegations (omission errors)	41.4%	34.5%	34.6%	46.2%
Evidence for sex act, no allegations (sex act omission errors)	20.0%	29.5%	33.3%	46.7%

supported allegations. Support of some form existed for 79% of the 100 allegations made in the police interviews and for 82.4% of the 192 allegations made during the hearings (46 of the 246 allegations were made in both forums).

Events with no allegations: omission errors

There was evidence for 318 different acts in which the girls were involved. Allegations were made about 194 (61%) of these. The remaining 124 acts were omitted by the girls in their allegations. Breaking these down by type of activity, 80 (36.9%) of the 217 sex acts that evidence shows happened were omitted, as were 7 (31.8%) of the 22 coercive acts, 27 (45%) of the 60 preparatory acts, and 10 (52.6%) of the 19 'other' acts. These events about which no allegations were made correspond to omission errors.

Table 2 breaks down, by each witness, omissions and supported and unsupported allegations. (If we were to assume the events did not occur, the unsupported allegations correspond to commission errors. However, they may instead reflect missing photographs or audiotapes, or scoring difficulties.) It is clear that omission errors outnumber unsupported allegations, for both sexual and non-sexual events. The figures suggest that the younger child, Mandy, performed more poorly than the older children in that her allegations were less likely to be supported. There is, however, a confound in that she had been involved for a much shorter period. In fact, although her contact with John extended over about 10 weeks, it was only in the two weeks prior to John's arrest that activity moved beyond sexual talk and topless photography. It is her allegations of coercion, in particular, that are not supported, but coercion could only be captured on audiotape, and there were very few audiotapes of this youngest child. Importantly, her allegations of sexual activity are supported to a level comparable with that of the older girls. The brevity of contact may explain why Mandy made fewer omission errors about sexual acts than any of the other girls. The higher level of unsupported allegations for Mandy, which particularly concerned allegations of coercion, could be due either to her being less reliable or to there being less time for evidence to accumulate.

Rejections

There were ten instances where a girl denied an event occurred and there was no evidence to the contrary, which again suggests clear memories of the abuse for the girls. There were three instances where a girl said an event did not occur but the

evidence shows that it did. Two of these may have been due to the strict coding schedule. If instead the incorrect rejections were due to forgetting, given that there were 318 different events about which evidence existed, it is impressive that so few were forgotten. All the incorrect rejections were responses to questions asked in a deposition hearing, and in one case, the girl had, during the police interview, correctly stated the event occurred.

Consistency

Inconsistency within or across different interviews is at times taken to imply that the witness may be unreliable or fabricating evidence (Stellar and Kohnken, 1989; Undeutsch, 1982). The current data can be used to compare the level of support for allegations made once with allegations made more than once during the police interviews and deposition hearings. Across the testimony of the four girls there were allegations, both supported and unsupported, of 246 separate acts. For 177 acts, allegations were only made in one forum, that is, only at the police interview or a single deposition hearing and, of these, 135 (76.3%) had supportive evidence. Of the 69 allegations made in more than one forum, 59 (85.5%) had supportive evidence. A repeated-measures analysis of variance on the level of support for allegations made once versus those made more than once showed that there was no significant difference in the likelihood of their having supportive evidence, $F(1,3) = 2.67$, $p = 0.202$. That is, there was a similar level of support for allegations made once as for those made on more than one occasion. With just four subjects, however, it must be noted that an F ratio with a p value of just over 0.2 may indicate a possible trend, with repeated allegations being more likely to have supportive evidence.

Adult language

Another point of interest is that the girls would sometimes use adult language in the courtroom when describing sexual events. This has been suggested in legal settings to imply coaching and possible fabrication of evidence given by child witnesses. In the deposition hearings involved in this case, the girls' use of adult language ('oral copulation' in particular) was questioned four times by defence lawyers, one of whom suggested that this term was 'what the police told [the girl] to say happened'. In each of these four instances there was photographic and/or audiotaped evidence to show that the event had occurred. These few instances suggest that the use of adult language by children should not necessarily raise questions about the veracity of what is described.

Effects of viewing the photographs

Finally, given that the girls viewed the photographic evidence between the police interviews and the deposition hearings, it is of interest to examine whether the girls shifted their allegations to favour events that they knew (from viewing the photographs) had supporting evidence. There were 79 supported allegations made during the police interviews, 52 (65.8%) of which were supported by photographic evidence and 27 (34.2%) of which were supported only by audiotaped evidence. There were 154 supported allegations made during the deposition hearings (at which many more

questions were asked), of which 95 (61.7%) had photographic supporting evidence and 59 (38.3%) had only audiotaped supporting evidence. The girls appeared no more likely, therefore, to make allegations about events that were photographed after seeing the photographs.

DISCUSSION

The goal of this study was to examine the testimony given by a group of children in the course of a child sexual abuse investigation, the level of support for allegations made, and the extent of abuse about which no allegations were made. Support of some form was found for 78.9% of all allegations made by the girls and for 85.6% of sex act allegations. It is worthy of note that the level of support for the sex act allegations is reduced by the difficulty in transcribing the audiotaped evidence. Many of the audiotapes contained clear but unidentifiable sexual activity, particularly those tapes of activities involving more than one girl. Over half of the unsupported sexual allegations were of acts that were considered highly likely but not certain to have been on these tapes. In addition, there were a large number of allegations (22.9%) supported by photographic evidence for which there was no corresponding audiotaped evidence. There was some indication on the audiotape labels that John sometimes taped one event over the top of a recording of an earlier event, which may account for 'missing' audiotapes. The lack of audiotaped evidence was more common for the younger two girls. For Mandy, for example, only one of the sexual acts (of the ten that evidence shows happened) had audiotaped evidence. Because 34.7% of the evidence was contained on audiotape only, it is feasible that events occurred which were neither photographed nor audiotaped. Given these two considerations, the 85% level of support for allegations of sexual acts and the 82.5% level of support for allegations of preparatory acts indicate surprisingly high levels of accuracy in the allegations the children made.

The level of support for the girls' allegations compared well with results obtained by Yuille and Cutsall (1986) in their case study of 13 adult witnesses to a shooting. In their study, there were seven witnesses who were centrally or actively involved in the incident, and Yuille and Cutsall found support for 84.56% of the descriptive details made by the witnesses in their allegations. Yuille and Cutsall attributed the high level of accuracy, when compared to laboratory studies, to 'factors usually absent in laboratory research' (p. 299) such as the saliency of the event and the active participation of the witnesses, both of which are features of the present case. In contrast, the percentage of supported allegations for the four girls exceeded that for a 13-year-old girl who suffered sexual abuse by her maternal grandfather, as recently reported by Orbach and Lamb (1999). Several differences between their study and the current one (e.g. Orbach and Lamb examined the child's reporting of a single incident of abuse; they had access only to an audiotaped not a photographic record of the incident) complicate direct comparisons of the results, although it is of interest that the children in both studies were highly accurate.

The coercive acts were least likely to have supportive evidence, with only 15 of the 35 allegations being supported by the evidence. In part this may be due to missing audiotapes. For Anne, for example, there are no audiotapes covering the period between her first surprise sexual encounter and her subsequent sex acts with men at John's house. There is no indication of how or why she became further involved. At

the police interview, each of the girls said that John obtained their participation by threatening to show nude or sexual photographs to their mothers. The three oldest girls knew of each others' participation and could have together fabricated this accusation, yet the youngest child, who had not discussed her participation with the others, accused him of the same thing in the initial police interview. This particular threat of John's is not contained on any audiotape, yet there is taped evidence of John threatening to play the audiotapes to the girls' mothers, a threat about which none of the girls testified.

Eight of the 20 unsupported allegations were allegations of payment for sex acts. John discussed with all the men about paying for the sexual activities with the girls, but there is often no audiotaped record of the payments actually being made. Because John appeared to have made most of the audiotapes for his sexual gratification and therefore the tape was often turned off immediately at the cessation of sexual activity, and also because John photographed only specifically sexual acts, these payments may have gone unrecorded. The remaining 12 unsupported allegations of coercion were of threats and psychological manipulation for which there is no supportive evidence. It may be that the girls were motivated to exaggerate or invent such acts to make themselves appear less culpable when on the witness stand. This is supported by another finding: the two oldest girls were each recorded asking John to arrange a meeting with Alfred. In each case the girl stated that she needed money. Yet this act, one which would have put the girls in a less victim-like role had it been mentioned in court, was not mentioned by either girl. This act, the girl requesting a meeting for sex, was the only category of event that occurred but was not raised in court.

Mirroring results of laboratory studies (e.g. Saywitz *et al.*, 1991), this case study indicates that the children made more errors of omission than errors of commission. Thirty-nine percent of all abuse-related acts for which there was evidence was not reported by the girls, including 36.9% of all sexual acts and 31.8% of the coercive acts. For the sexual acts, which were numerous, it is hardly surprising to find this level of error of omission and to find that the girls who were involved longer and more frequently omitted more acts than the girls who were involved for a briefer period. It is also, perhaps, not surprising that the preparatory acts, which may have been regarded by the girls and the questioners as peripheral to the criminal charges, were often omitted in the girls' allegations. The missed coercive acts are, however, of particular interest. It was noted earlier that support existed for only 42.9% of the allegations of coercion made by the girls, which may imply that the girls made allegations about coercion which did not occur. However, it is difficult to conclude that the girls fabricated claims of coercion, perhaps to implicate the men further or to make themselves appear less culpable, when it is clear that they did not report other coercive acts, many serious, which are known to have occurred. It may be that the girls' testimony about coercion, like that of John Dean in Neisser's (1982) study, showed accurate gist in that they remembered being psychologically manipulated and threatened, but that the details, that is, the specific types of coercion, were not accurately recalled.

It could be argued that the evidence presented here is not typical of legal cases involving children's evidence. In particular, it could be hypothesized that the girls' testimony during the deposition hearings would be more likely to be accurate than testimony in other similar cases because the victims had viewed the photographs and

reminded themselves of events prior to the hearings, thus biasing their testimonies toward truth. There is reason to believe this is not so.

The girls knew that their activities were being photographed and had seen the photographs. They were usually unaware that they were being audiotaped, however. In court, they showed that they knew of only two or three incidents of audiotapes being made. If the girls were to change their testimony to favour the evidence, it would be to favour the photographic evidence. Thus, it would be expected that testimony given during the hearings (after viewing the photographs) would be more strongly supported by photographic evidence than would the allegations made in the police interviews (prior to viewing the photographs). This was not the case. Of the 154 allegations made during deposition hearings for which there was supportive evidence, 95 (61.7%) had supportive photographic evidence. Of the 79 allegations made during the police interviews, 52 (65.8%) had photographic evidence. The girls showed no tendency to bias their testimony towards allegations about acts for which they knew evidence to exist after viewing that evidence.

It may be that the very act of having the photographs taken (and the girls knowing of their existence) prompted the girls to be more honest from the start of the first police interview than they otherwise might have been. Alternatively, seeing the photographs prior to the preliminary hearing may have served as a form of suggestibility for the girls, biasing their testimony towards events which they saw in photographs after the abuse had ceased. It appears, however, that the girls willingly made allegations about coercive events and preparatory activities which were not photographed, so they were certainly not influenced to limit allegations to events for which they knew evidence to exist.

It is also possible that the photographs served as a form of reminder or context reinstatement for the girls (Davies and Thompson, 1988; Wilkinson, 1988). The girls viewed the photographs in the time period between the police interviews and the hearings, and also on occasions, photographs of an act were presented in court immediately following an allegation of that act by the child and these photographs may have served as a memory cue for the event. This explanation may account for the lack of forgetting over the few months between the police interview and the hearings. Of the allegations made by the girls in the police interviews, 79.0% were supported by the evidence, as were 82.4% of allegations made during the hearings; there was no reduction in accuracy. Of the 318 acts which evidence shows occurred, we found that the girls made allegations about 79 (24.8%) in the police interviews and 159 (50.0%) in the hearings. That is, there were significantly fewer omission errors made in the hearings than during the police interviews. This may be due to the girls being reminded of the events by the photographs and if so, it would suggest that one would tend to find a higher level of errors of omission in other similar cases. Alternatively, the phenomenon of 'reminiscence' could account for the girls' more complete reports at the hearings. Finally, the reduced level of errors of omission found in testimony given in the hearings could also be due to the fact that there were five hearings and only one police interview, and, in addition, the hearings contained many questions for the witnesses, whereas the police interview was less structured and called for more free narrative.

It may also be that this case is atypical because the police and lawyers saw the photographs prior to interviewing the girls, and this may have suggestively influenced the content of the police interviews and preliminary hearings, respectively. This is

highly unlikely in the case of the police interviews. The police interviewed one of the girls prior to seeing the photographs, and two others were interviewed immediately following the police raid on John's house when the girls were present. Although the police are likely to have seen a small subset of the photographs, the Polaroids from the afternoon of the police raid, the other photographs were not found and catalogued until after the raid. The remaining police interview, with the youngest child, was conducted the next morning when, it is quite plausible, the police officer could well have viewed photographs relevant to that child so this interview could have been affected. However, the tapes took many hours to catalogue and had certainly not been listened to before any of the police interviews. Yet, as mentioned earlier, girls made many allegations about non-photographed events in the police interviews, so the possible suggestibility of the police did not restrict the girls' allegations.

In some ways this case is typical of others that occur. Russell (1983) interviewed 930 adult women about their experiences of sexual abuse, and found that 28% of her sample reported some form of extrafamilial abuse prior to the age of 14. Only 6% of those in her sample who were extrafamilially abused ever reported the abuse to the police. Although they readily cooperated with police when questioned, the four girls involved in the present case did not disclose the abuse to an adult or report to the police of their own volition. Audiotaped conversations show the oldest girl threatened to tell her mother, but John told her that she would be arrested also because she had accepted money for sexual activities. Two of the other girls wanted the sexual activities to cease, but rather than talking with an adult, they tried to convince John to stop, and they also ceased visiting him for a period of time, hoping he would 'shape up'.

Although they did not contact the police, the girls were totally cooperative once the police were notified. One stated that she wanted the events to cease when she realized that her 8-year-old neighbour was involved. Two others were having nude photographs taken when the police arrived and arrested John, and the audiotaped evidence shows that these girls heard the police clearly blaming John for the activities, and heard the police saying that John was caught 'red-handed'. This may have given the girls a sense of security that John would be prosecuted but that they were not to blame.

All the girls in this study were between 8 and 14 years old when the abuse began. In a survey of 521 parents in Boston, Finkelhor (1984) found that 44% of childhood sexual abuse began in this age period. He ascertained, however, that sexual intercourse and oral-genital sexual activities were only reported by 2% and 6% of his sample, respectively, which makes the abuse perpetrated in this case unusually severe. In many ways the details of this case match those of other 'sex rings'. Burgess and Grant (1988) describe the typical manner by which children are drawn into such activities. Their description that 'the adult engages the child in the illicit activity through abuse of adult power as well as misrepresentation of moral standards' (p. 8) appears to describe accurately the methods John used. The sharing of minors by a group of men and the taking and exchange of photographs also fit the typical 'sex ring' pattern.

CONCLUSIONS

The current case study indicates that children can give accurate, detailed, and reliable testimony following sexual victimization. There was supportive evidence for almost

80% of the allegations made, and for 85% of the accusations of sexual activity. Consistent with findings from laboratory studies, these girls were more likely to leave out allegations of events that did occur, that is, make errors of omission, than to talk of events about which no evidence existed. For the oldest child, the exploitation continued over a 2 year period, and yet, apart from having a slightly higher level of omission errors than the others, her accuracy was comparable. This is a much more demanding memory task than researchers typically attempt in the laboratory. The present observations of how children perform indicate that there is more to be learned from 'scientific case studies' and that such research can contribute to an understanding of children's memory and eyewitness testimony.

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