E 31AP

LAW·COMMISSION
TE·AKA·MATUA·O·TE·TURE

Evidence

Miscellaneous Paper 13

Total Recall? The Reliability of Witness Testimony

August 1999
Wellington, New Zealand

The Law Commission is an independent, publicly funded, central advisory body established by statute to undertake the systematic review, reform and development of the law of New Zealand. Its purpose is to help achieve law that is just, principled, and accessible, and that reflects the heritage and aspirations of the peoples of New Zealand.

The Commissioners are:

The Honourable Justice Baragwanath – President
Judge Margaret Lee
DF Dugdale
Denese Henare ONZM
Timothy Brewer ED
Paul Heath QC

The office of the Law Commission is at 89 The Terrace, Wellington
Postal address: PO Box 2590, Wellington 6001, New Zealand
Document Exchange Number: SP 23534, Wellington
Telephone: (04) 473–3453, Facsimile: (04) 471–0959
E-mail: com@lawcom.govt.nz
Internet: www.lawcom.govt.nz

ISSN 1173–9789
ISBN 1–877187–31–3
ISBN Full Evidence set 1–877187–36–4

Law Commission Miscellaneous Paper 13
August 1999, Wellington New Zealand

This miscellaneous paper may be cited as: NZLC MP13

Evidence

Report 55 Volume 1 – Reform of the Law

Report 55 Volume 2 – Evidence Code and Commentary

Miscellaneous Paper 13 – Total Recall? The Reliability of Witness Testimony

Contents

1
Introduction

1 THE TESTIMONY OF WITNESSES ABOUT events and the people involved in them, or, more accurately, their *recollection* of those events, is central to the functioning of criminal and civil proceedings. Potential witnesses may be required to identify suspects, and describe events to the police or their lawyers. In court, witnesses are asked to give evidence about events which may constitute a criminal offence, or may form part of a series of events concerning a civil dispute. Judges and juries must then assess the reliability of witnesses' evidence.

2 We are not well-informed about the nature of memory and the circumstances in which memories may be reliable or unreliable. Research demonstrates that commonly held perceptions about how our minds work, and how well we remember, are often wrong. For example, a recent study of 116 graduate students in the United States found that 64 percent agreed that once an event is experienced, information about it is permanently stored in the brain (Garry, Brown and DuBreuil, 1997). Similar results were obtained in an unpublished national study using a much broader base (1044 people) (Brown, 1998). Studies conducted in Australia, the USA (for example, Loftus, 1979/1996:177), Canada and the UK (for example, Noon and Hollin, 1987) on general knowledge about factors influencing the reliability of eyewitness testimony demonstrated the limited knowledge of the general public, the police (in the UK study) and psychology and law students (in the Australian study).[1] Studies also show that the judiciary and jurors believe children have poorer memory than adults, are highly suggestible and susceptible to the influence of others, and prone to fantasy (see, Cashmore and Bussey, 1996; Schmidt and Brigham, 1996). Psychological literature presents a different, more complex picture.

[1] See Kapardis, 1997:23. Since this paper largely refers to psychological research, we have adopted the style of referencing used in psychological and other scientific research: we refer to the name or names of the authors of a study or text, followed by the year in which it was published, and then the page reference. All articles and texts referred to are listed in the bibliography.

3 Broadly, the aim of publishing this paper is an educational one: to counter incorrect perceptions and stereotypes about the reliability of memory; and to provide an aid to judges, lawyers and other trial participants about the nature of human memory. It is intended to assist judges in formulating directions to juries, but it is not intended to replace expert evidence in a trial, or judicial directions in a particular case. In fact, a central theme of this paper is that, because of the complexity of memory processes, each case and the reliability of a person's recall must be assessed on an individual basis.

4 As the Law Commission publishes this paper we also release our final report on the law of evidence, which recommends a comprehensive Evidence Code for New Zealand. These recommendations take into account scientific knowledge about the functioning of human memory, particularly in relation to eyewitness identification, children's evidence and memories of traumatic childhood events. This paper is intended as a companion guide to the Evidence Code, to enable those considering and applying the Code to better understand the scientific knowledge on which the Code provisions are based.

5 Apart from this introductory chapter, the paper is divided into four sections. Chapter 2 is a description of the generally accepted theory of the three stages of our memory processes – acquisition, storage and recall – and the factors which may affect the reliability of memory. Just as important as an individual's ability to remember events accurately are the techniques used to elicit the narrative retelling of events. A description of the different types of long term memory is also included. This is essential to understanding the reliability of our memories for autobiographical events and how they may be altered over time. The chapter concludes with an outline of the theory of source monitoring, which describes the attribution of memories to their correct source.

6 The remaining chapters focus on three difficult and at times controversial areas relating to memory and reliability:

- eyewitness identification,
- children's memories (especially those of young children), and
- adults' memories of traumatic childhood events such as sexual abuse (including discussion of "recovered" memories and "false memory syndrome").

Each chapter summarises the findings of the most up-to-date psychological research in the area and identifies gaps in current knowledge and where further research is required.

7 There is a vast amount of research literature, experimental studies, and archival and survey studies on these subjects. We have relied on summaries by expert psychologists and consulted with expert New Zealand psychologists. We occasionally refer to meta-analytical reviews, particularly in chapter 3 (eyewitness identification). Meta-analysis uses quantitative techniques to develop an integrative review of empirical research. Traditional reviews on the other hand use qualitative techniques. Since the 1970s, meta-analyses have grown in sophistication and acceptance. They allow reviewers to assess variability in research findings and to determine whether further research is necessary in order to account for such variability.[2] For more in-depth knowledge about psychological studies in the areas covered by this paper readers should, as a starting point, see the texts listed in the bibliography. Cutler and Penrod's *Mistaken Identification: The Eyewitness, Psychology, and the Law* (Chapter 4) contains a useful description of scientific psychological research methods, their advantages and limitations, and a glossary of terms used in experimental literature.

8 Psychological research, whether it is conducted in a controlled laboratory setting or a more realistic field setting, has its limitations. Field research is limited by the lack of control over the environment, while ethical restraints and other issues may limit laboratory research. Further, most experiments treat the eyewitness as a bystander, whereas an unaffected bystander is a rather rare occurrence in forensic contexts (Kapardis, 1997:28). Researchers also conduct archival studies of eyewitness experiences, often based on police records. These studies have the benefit of analysing real life data but are limited by factors such as possible discrepancies in recording information and a non-uniform approach: for example, in the conduct of identification procedures.

9 There is on-going debate among psychologists about the external or "ecological" validity of experimental research, particularly that based in laboratories. Another factor to be considered is that research reports statistical information regarding the *group* being studied. Individual differences exist within the group and an individual may not be typical of the group. The applicability of the findings of experimental research to the real world must be assessed with caution, and in light of other research.

---

[2] For an in-depth discussion and description of meta-analytic methods see Cutler and Penrod, *Mistaken Identification: The Eyewitness, Psychology and the Law* (Cambridge University Press, New York, 1995) 71–78.

10 There are no simple or straightforward answers to questions about the reliability of witness testimony. While much of the research in relation to eyewitness testimony, children's evidence and adults' memories of traumatic events has focused on the limitations of memory, there is a danger of exaggerating that scepticism. As Lindsay and Read (1994:293) put it: "It is important not to exaggerate the fallibility of human memory. Memory is often wonderfully detailed and accurate."

2
Memory theory

INTRODUCTION

11 MEMORIES ARE NOT PERMANENTLY STORED as if recorded on tape, unaltered, to be played back some time later as an exact recording of the event. Nor are memories always completely accurate. It is generally agreed by psychologists that memory is both a reconstructive and reproductive process. So, memory depends in part on knowledge and in part on other sources of information additional to what is recorded when an event is first experienced. It is an active rather than a passive process. In contrast, the legal/adversarial approach often makes such erroneous assumptions:

> A witness is often asked to play the role of a kind of tape recorder on whose tape the events of the crime have left an impression. The prosecutor probes for stored facts and scenes and tries to establish that the witness's recording equipment was and still is in perfect running order. The defence cross-examines the witness to show that there are defects in the recorder and gaps in the tape. Both sides and the witness too, succumb to the fallacy that everything was recorded and can be played back later through questioning.
>
> Neither perception nor memory is a copying process. Perception and memory are decision-making processes affected by the totality of a person's abilities, motives and beliefs, by the environment and by the way his recollection is eventually tested. The observer is an active rather than a passive perceiver and recorder; he reaches conclusions on what he has seen by evaluating fragments of information and reconstructing them. (Buckhout, 1974:23–24)

THE THREE STAGES OF MEMORY

12 Many theories present memory as involving three stages: acquisition, storage and recall. Processes involved with each stage influence how accurately and completely any witnessed event will later be recalled. The first stage is acquisition, when information is encoded in memory. This involves transferring the information from "short-term" (working memory which holds information for a few seconds) to "long-term" (more permanent) memory

(Gudjonsson, 1992:83). Processes relating to perception, attention and understanding, including the stress or shock of an event or a person's expectations of what will happen, may influence what information is encoded in memory and how well is it encoded.

13 Second is the retention stage, the period of time that passes between an event and the eventual recollection of a particular piece of information. Once information enters memory, it may reside there for a period of time before the witness attempts to retrieve it. Psychological research indicates that stored information is malleable and subject to change and distortion during this retention stage. Memories may change simply as a function of time, particularly following very long delays. Also, the relationship between memory and the retention interval is a "negatively decelerating" one. This means memory retention drops off rapidly at first and then the decay is much more gradual (Loftus, 1979/1996:222). Memories may also change as a result of similar intervening experiences, rehearsal of the event (for instance, thinking and talking about it), and exposure to other information about the event. Many factors which affect encoding also affect the retention stage.

14 Third is the retrieval stage, during which a person recalls the information about the event. Recall is influenced by the cues available to retrieve the memory; for example, as provided by questions, or physical cues such as photographs or a reinstatement of the original context of the event. Recall is also affected by the social context in which the person is asked to recall the information. Forgetting, that is, failure to retrieve information from our memory, may indicate:

- failure to store information correctly;
- displacement of information;
- the memory trace has faded away or decayed with the passage of time;
- interference from later input which sounded similar and impacted negatively on the short-term memory or information which is semantically similar and interfered with information stored in the long-term memory;
- lack of appropriate retrieval cues.

Some psychologists hypothesise that some forgetting, for example of traumatic events, may be caused by mechanisms other than those related to ordinary forgetting. This is particularly relevant to the

debate concerning "recovered" memories, see chapter 5. Retention and retrieval stages recur with each instance of recall or reporting.

15 Therefore, the accuracy and comprehensiveness of *any* person's recall, depends on factors such as the personal significance of the event, the emotive content of the event, the time lapsed since the event, the occurrence of other related events, why and by whom the person is asked to recall their memories, and the kinds of retrieval cues provided at the time of recall. The fundamental question of whether forgetting is the result of actual loss of information stored, or whether it is the loss of *access* to that information (which remains stored forever), or whether it is the result of both, may be unanswerable (see also para 57).

TYPES OF MEMORY

16 As mentioned in para 12 there is a well-established distinction between short-term memory (sometimes called working memory) and long-term memory. There is growing evidence of an intermediary phase which may last months or even years before the memory is fully consolidated into long-term storage.

17 Psychologists now distinguish between different types of memory. This is best understood "as reflecting the different processes that can be used to access a common memory trace" (Squire et al, 1993:482, cited in Kapardis, 1997:25). However, it should be noted that some memories may not be neatly pigeonholed into a single category. The following are terms which are commonly used by psychologists, and are used occasionally in this paper, for different types of long term memory. Some types of long-term memory may be more vulnerable to change than others.

18 *Implicit memory* is memory which operates at an unconscious level. It is sometimes known as *non-declarative memory* and is seen operating in habits, skills, emotions and reflexive actions. The memory is not available for conscious verbal recall but may impact on a person's behaviour. *Somatosensory memory*, a type of implicit memory, refers to physical sensations and reactions. We may have physiological reactions to situations and people, without necessarily being able to consciously recall or reflect on their origins.

19 *Explicit (or recollective) memory* is memory which is accessible to the consciousness; it is sometimes also known as *declarative memory*. These memories may be recalled verbally. Theorists argue that the distinction between implicit and explicit memory is merely one of the strength of available cues, however, there is evidence that these

memories depend on two different neural systems and each have different properties.

20 Many theorists have also distinguished two kinds of explicit memory: semantic memory and episodic memory. *Semantic memory* refers to our general knowledge of the world, of the sort that may be recorded in an encyclopaedia or a dictionary. *Episodic memory* refers to the memory for events that involve the individual, of the sort that may be recorded in a personal diary, that happen at a specific time in a particular place. These are the most fragile of memories and are probably not fully formed until a child has developed a concept of self and the necessary cognitive skills.

21 *Autobiographical memory system* refers to the system by which we organise the episodic memories that make up our personal histories. They are significant memories that are related to our concept of ourselves in some way. This system is dependent on the development of cognitive skills, particularly language. Even in adulthood our autobiographical memory is likely to be patchy and subject to distortions, the more so the more distant the memory.

SOURCE MONITORING

22 Source monitoring refers to the set of processes involved in making attributions about the origins of memories, knowledge and belief (Johnson, Hastroudi and Lindsay, 1993:3). Source monitoring theory is relevant to all the issues discussed in this paper because the accuracy of any memory crucially depends on being able to attribute it to its correct source. In a 1993 review, Johnson, Hastroudi and Lindsay developed a source monitoring theory that suggests that there are at least three important types of source monitoring: reality monitoring, external source monitoring and internal source monitoring.

23 Reality monitoring involves discriminating memories of internally generated information from memories of externally derived information, for example, distinguishing memories of thoughts and imaginations from memories of perceived events. External source monitoring refers to discriminating between externally derived sources, for example, statements made by A from statements made by B. Internal source monitoring refers to discriminating between internally generated sources, for example, discriminating memories of what one thought from memories of what one said.

24 According to Johnston et al, two processes are involved in each type of source monitoring. The first is a relatively automatic

evaluation of characteristics of the memory such as perceptual information, context in space and time, semantic detail, emotional characteristics and cognitive operations that were established when the memory was formed. The second is a more reflective process and involves retrieval of supporting memories, noting or discovering relations and reasoning (eg asking yourself "does this seem like a real memory, given other things I know?"). Each process can provide a check on the other. After reflective reasoning, a memory with a lot of sensory detail may be rejected as a memory of an actual event on the basis of implausibility. Similarly, lack of sensory detail may challenge the reality of recollections that would otherwise be readily accepted because they fitted with one's general knowledge and beliefs.

25 Source monitoring is not an absolute concept. You may remember that you were told about an event rather than experienced it but not remember who told you or where. Source monitoring depends on the quality of the information initially encoded, the uniqueness of the characteristics associated with given sources (the more similar the memory characteristics from two or more sources, the more difficult it will be to specify the source correctly) and the quality of the decision processes when source monitoring judgments are made.

3
Eyewitness identification

INTRODUCTION

26 THE IDENTITY OF THE PERSON who has committed an offence is often disputed in a criminal trial. In such circumstances, it may be difficult to judge whether an eyewitness's evidence is reliable. Like all mental processes, the process of identification, in which a witness compares a remembered image with a person physically before them, or an image of a person, is a complex and dynamic one.

27 Eyewitness identification can be flawed simply because of the processes of memory that occur whenever human beings acquire, retain, or attempt to recall information. Eyewitness identification can be further influenced by the investigative procedures used by the police to gain descriptive information about an offender, or by the identification procedures used once they have a suspect. In other words, eyewitness error is likely to be the product of both inherent human cognitive limitations and the methods used to obtain information from eyewitnesses (Wells et al, 1994:241).

28 Over the years much concern has been expressed about the accuracy of eyewitness testimony. A study of post-1900 wrongful convictions in the USA indicated that eyewitness misidentification was a factor in 52 percent of the cases (Rattner, 1988:291). Unsatisfactory identification was also found to be a significant factor in wrongful convictions in an English study covering the years 1950 to 1970 (Brandon and Davies, 1973, cited in Rattner, 1988:285).

29 Hundreds of experimental studies have been conducted on varying aspects of eyewitness identification (Cutler and Penrod, 1995:67–69; Kapardis, 1997:21). Many of these studies raise legitimate concerns about the reliability of eye witness identification. However, some caution is needed in generalising about the reliability of eyewitness evidence based on the results of psychological research. It is always important to consider the

soundness of particular research, its ecological validity and its applicability to the facts of the case. It is also important not to exaggerate the practical importance of psychological studies in the context of the criminal justice system (Kapardis, 1997:23). Police in New Zealand estimate that identification issues arise in about 20–24 percent of cases. After pre-trial conferences and guilty pleas just 5–10 percent of these cases result in defended hearings.[3] Judges are also aware of the danger of relying on identification evidence, and jury trials form only a small proportion of all criminal proceedings.

EVENT PERCEPTION

30 The process of identification begins when a witness sees another person in circumstances which suggest that an offence may have been committed. The witness may not have seen the person actually committing the offence; for example, the witness may only observe a person covered in blood or driving away from a robbery scene, not the actual robbery. Numerous factors will affect the accuracy of the initial perception. Some of these factors are inherent in the event itself, such as the distance between the offender and the witness. Other factors, such as whether the witness has poor eyesight, or how the stress of seeing the offence affected the witness, are inherent in the witness. Others relate to the characteristics of the offender, such as the use of a disguise.

31 Psychologists have analysed the effect of various factors in order to determine to what extent they may be used to predict eyewitness accuracy. Divisions between witness or event or offender factors are not absolute (eg, the type of event, such as an armed robbery, is closely related to a witness's level of physiological arousal or stress). While these factors have primarily been analysed in relation to the encoding of an event in a witness's memory, they may also be relevant to retention, later recall of the event and recognition of an offender.[4] For example, a person's age is relevant to performance at all stages of the memory process, whereas the light available during a witnessed event will impact primarily on the encoding of the memory for that event.

---

[3] Informal survey of NZ Police practice conducted by the Law Commission, 1995.

[4] The ability to recognise a person seen previously may be contrasted with the ability to recall and verbally describe that person's appearance.

Event factors

32 Many factors relating to the event itself are obvious and their effect on identification is widely understood. They include:

- the duration of the sighting;
- the number of times the subject was seen by the witness;
- the position of the witness relative to the subject;
- whether any objects obscured that view;
- available light; and
- the complexity of the event witnessed.

As Cutler and Penrod comment (1995:101), common sense tells us that the amount of time available for viewing a perpetrator is positively associated with the witness's ability to make a later identification, and this conclusion is supported by the psychological literature (Kapardis, 1997:37).

33 It has been hypothesised that the seriousness of the crime will have an effect on the ability of eyewitnesses to make accurate identifications. However, the few studies on this topic have methodological problems, and have encountered ethical limitations on the types of experiments which can be undertaken. Related studies have examined the anxiety and stress inherent in an event. Anxiety and stress may have an effect on the quality of the witness's perception, although the precise impact is often difficult to assess. Experimental studies have reported that a high level of stress impacts adversely on memory accuracy, however other researchers, using real life events, found that contrary to what the experimental literature predicts, a high level of stress is good for memory (Christianson, 1992:286; Kapardis, 1997:41).

34 To some extent the conflicts in findings can be explained by differences in methodology; for example, some studies measure inaccuracy in terms of errors of omission, while others are concerned with memory decline over time and errors of commission (Kapardis, 1997:42–43). There is no doubt that subjects in simulation studies are unlikely to experience the same degree of emotional arousal, stress and trauma experienced by real-life witnesses, whether as bystanders or victims (Kapardis, 1997:39). Studies which have attempted to surmount ethical limitations on experimental research, usually through the use of violent and non-violent videotapes of crimes, have resulted in a range of different findings. This indicates that there is no simple relation between

stress and the accuracy or amount of information recalled. A recent laboratory study, for instance, found that participants who witnessed a negative emotional event (a violent film) recalled less information prior to and following the event than the group of participants who witnessed a comparable neutral event, but they recalled more information about the critical event itself. Repeated testing increased the amount recalled about either event; and repeated testing enhanced recall equally for both groups of participants (Bornstein, Liebel and Scarberry, 1998:129).

35 Another limitation on research is that most of the studies in fact examine the influence of arousal on eyewitness *recall* rather than on eyewitness identification of an offender (Cutler and Penrod, 1995:104). In any event, it is likely that arousal is not a single construct and various forms of arousal may differently influence eyewitness memory (Christianson, 1992, cited by Cutler and Penrod, 1995:105, and Kapardis, 1997:40).

36 One aspect relating to the seriousness of a crime is the presence of a weapon. It is hypothesised that a witness's attention becomes fixated on the weapon used in an offence and, since the witness's attention is diverted from details relevant to identification, identification accuracy declines. This is known as the "weapon focus" hypothesis. Steblay's meta-analysis[5] (1992) of 19 studies of "weapon focus", found that the presence of a weapon had a small but statistically significant effect on eyewitness performance. The effect is greater when the weapon is visible, compared to situations where the weapon is concealed but the witness is aware of its presence (see Cutler and Penrod, 1995:102).

37 Tollestrup, Turtle and Yuille found in their 1994 archival study that eyewitnesses and victims of robberies provided more detailed descriptions in crimes involving a weapon than those involved in a crime with no weapon; further, victims provided more detail than eyewitnesses (156). In terms of accuracy of description, they found no significant effects in relation to the presence of a weapon or whether the witness was a bystander or victim (157). The authors concluded that the presence of a weapon has complex effects and does not appear to have a detrimental influence on the amount or accuracy of descriptive information provided by actual eyewitnesses. However, the presence of a weapon negatively affects subsequent recognition of the person holding the weapon (158). This fits with what the experimental literature predicts.

---

[5] See para 7 which briefly describes meta-analysis.

Witness factors

38 Witness factors are divided into stable and malleable characteristics. Stable witness characteristics include the witness's age, gender, race, intelligence, face recognition skills, and personality characteristics. Malleable characteristics are characteristics which are subject to change, such as the eyewitness's state of intoxication or what the witness is thinking at the time of the crime. An example of the latter is the expectation of bank tellers, during a robbery, that they will later be asked to identify the offender.

39 Age is the only stable witness characteristic that studies indicate has an effect on eyewitness identification accuracy (Cutler and Penrod, 1995:84–85). Some studies show that elderly eyewitnesses (usually 60 years old or older) do not perform as well on identification tests as younger adults (Adams-Price, 1991; Bartlett and Fulton, 1991; O'Rourke, Penrod, Cutler and Stuve, 1989, cited by Cutler and Penrod, 1995:83). Others find no recognition differences between adult and elderly populations (Smith and Winograd, 1978; Yarmey and Kent, 1980, cited by Cutler and Penrod, 1995:83) Nevertheless, after discussing these studies, Cutler and Penrod felt able to conclude that elderly subjects had been shown to perform more poorly in making accurate identifications than other adults. Children are significantly more likely than adults to make an inaccurate identification when the target is *not* present in a photograph lineup or showup. However, they are as accurate as adults when the target is present. (Gross and Hayne, 1996; Lindsay et al, 1997). This suggests that the inaccuracy is due to the child's social need to perform well at the task set rather than any inaccuracy in memory. See further chapter 4.

40 Other stable witness factors may possibly affect the reliability of identifications but their effect is not so easily recognised or measured. Gender studies have reported mixed results when a witness's gender is independently considered. However, there have been some interesting studies suggesting that witnesses will more easily identify someone of the same gender than someone of a different gender (Kapardis, 1997:57, citing Jalbert and Getting, 1992; Shapiro and Penrod, 1986; although noting that this evidence is contradicted by Cross et al, 1971; see also Cutler and Penrod, 1995:104). This effect has also been demonstrated in relation to differences in ethnicity or race between the witness and the offender (Shepherd and Deregowski, unpublished manuscript; Cutler and Penrod, 1995:104). However, it is probably premature to draw any firm conclusions based on these studies.

41 Cutler and Penrod (1995:84–85) also conclude that face recognition skills (as measured by prior performance of the witness rather than self-reporting), and the verbal ability of eyewitnesses, appear to be promising predictors of identification accuracy and warrant further research.

42 Cutler and Penrod's meta-analysis found mixed results as to whether malleable witness characteristics, such as training in face recognition, are good predictors of witness accuracy (1995:89). Police officers, due to their training, are generally believed to be more accurate witnesses than civilians. However, studies on this topic found conflicting results. Some reported that better recall is associated with the length of service with the police, while others do not support the view that police are more vigilant in perceiving offences and suspicious circumstances. A recent Swedish study shows a higher level of accuracy for police officers, compared to civilians, in remembering some crime-relevant information, particularly the characteristics of the perpetrator's appearance. However, the officers' performance on memory questions relating to the victim, bystanders and objects at the scene of the staged criminal event, were not significantly different from that of the civilians (Lindholm, Christianson and Karlsson, 1997:441).

43 Moderate quantities of alcohol impair the process of forming new memories, while short-term memory and retrieval are unaffected (Loftus, 1980, cited by Gudjonsson, 1992:95). Two studies have examined the effects of alcohol on eyewitness performance (Yuille and Tollestrup, 1990; and Read, Yuille and Tollestrup, 1992; cited in Cutler and Penrod, 1995:88–89). The results of the 1990 study gave strong support for the hypothesis that even a mild level of intoxication significantly impairs memory, and also interferes with the acquisition and encoding of the observed event rather than with retrieval. The 1992 study examined the effect of intoxication and arousal on memory performance. This experiment was rather unusual in that the subjects played the role of thieves in a simulated robbery, and the level of arousal was manipulated by varying subjects' perceptions of how likely they were to be caught by a bystander. Results suggested that high levels of arousal may overcome the debilitating effects of alcohol. It is difficult to draw conclusions about the effect of alcohol given the limited number of studies (Cutler and Penrod, 1995:89–90).

44 Whether a witness is also the victim of the crime is another factor to consider. Again, studies have reported conflicting findings in this area. A study which reported that bystanders gave less information both about appearance and events may be attributable

to the fact that victim-witnesses may be asked more questions by the police (Kapardis, 1997:61, describing the study by MacLeod, 1987).

Offender factors

45 Stable offender characteristics, such as an offender's gender or race, are not good predictors of eyewitness accuracy. On the other hand, the distinctiveness[6] of an offender has been shown to be a good predictor (Cutler and Penrod, 1995:97–98). Few studies have considered offender body height and size, and these may be fruitful areas of future research. Kapardis notes that researchers have perhaps neglected offender variables in their studies, and that more research is needed (1997:72–73).

46 The physical appearance of an offender can be malleable; it often changes between the crime and the identification. For example, the offender may change his or her hairstyle, or may have worn a cap, sunglasses or a disguise. Even a simple thing such as wearing a hat can conceal hairstyle, making a person harder to recognise. These and other changes can have a significant impact on the later identification process. Studies reviewed by Cutler and Penrod show that changes to a person's appearance as a result of ageing, changes to facial hair, or disguises, have a reliable and significant detrimental effect on subsequent accurate recognition by witnesses (1995:100).

THE IMPACT OF TIME

47 Many witnesses to a crime will be asked to describe the event and alleged offender, and to identify him or her, some time after the incident, whether minutes later, or days or many months. Common sense, and psychological research, tells us that memory declines over time. Does identification accuracy also decline as the time between the crime and the identification increases?

48 It is well established that recall and recognition accuracy are at their best immediately after encoding the information, and that both decline at first rapidly and then gradually over time (Kapardis, 1997:74, citing Hunter, 1968; Thomson, 1984; and Shapiro and Penrod, 1986). Face recognition and person identification have been found to be more resistant to the effects of delay than recall (Kapardis, 1997:75, citing Deffenbacher, 1989; Ellis, 1984;

---

[6] The studies referred to found that faces rated as "highly attractive" or "highly unattractive" were better recognised than more neutrally rated faces.

Loftus, 1979; and Shepherd at al, 1982). However, longer delays increase the likelihood of post-event information interfering with the original memory and impacting on both accurate recall and recognition (see paras 55–65).

INVESTIGATIVE PROCEDURES AND INTERVIEWING EYEWITNESSES

49 Eyewitnesses may be asked to recall their memory of an event a number of times before actually identifying a person as the offender, usually as part of the initial police investigation to form a suspect profile. This may involve describing the event, or searching through police mugshots, or even, in some rare cases, undergoing forensic hypnosis. Psychologists have studied aspects of these investigative procedures both in the real world, and in laboratory and field studies.

Interviewing techniques

50 Two interview techniques studied by psychologists are the cognitive interview (CI) and forensic hypnosis. The cognitive interview was developed largely by two American psychology professors, Fisher and Geiselman, utilising four principles derived from psychological literature about information retrieval. The principles are:

- mentally reinstating the environmental and personal context that existed at the time of the original event;
- reporting everything, however trivial;
- recounting the event in a variety of orders; and
- recounting the event from a variety of perspectives (Kapardis, 1997:86).

Available psychological research shows that the CI has a number of merits. For example, it results in a witness providing significantly more information than a typical police interview without an increase in the ratio of inaccurate to accurate information. However, the technique does have limitations. As the developers of the CI themselves acknowledge:

> Research in developing the CI is still in its infancy. It has generally been found successful as a memory enhancer, but only in a limited number of conditions. … More research needs to be done to refine the procedure and to expand and define its domain of effectiveness. (Fisher, McCauley and Geiselman, 1994:266)

In particular, there are some aspects of the CI that are not appropriate for use with children, especially young children. Nevertheless, with children over the age of 7 or 8, aspects of the CI can be used.

51 Forensic hypnosis is defined as "hypnotic techniques applied to information-gathering for evidential purposes" (Haward, 1990:60, cited by Kapardis, 1997:87). Hypnosis interviews were first used by American police, in the 1950s, to assist witnesses to remember, and by the 1970s detectives were being trained in hypnotic techniques. In the UK and Australia, hypnosis was usually conducted by psychiatrists and qualified psychologists, never police officers (Kapardis, 1997:87–88). This is also the position in New Zealand, where the practice of conducting forensic hypnotic interviews is rare.

52 There are a number of issues related to the use and effectiveness of forensic hypnosis, such as the consent of the witness, the subsequent admissibility of such evidence (in New Zealand see *R v McFelin* [1985] 2 NZLR 750 (CA)), and whether hypnosis can actually interfere with a witness's memory of an event. McConkey's view about the benefits of hypnosis reflects that generally held by psychologists:

> there is no guarantee that any benefits (such as increased recall) will occur, and there is a likelihood that some costs (such as inaccurate recall, and inappropriate confidence) may be incurred when hypnosis is used to enhance memory . . . [and] . . . A similar conclusion comes from using hypnosis in the forensic setting. (1995:2)

The literature on hypnosis is discussed in an authoritative 1998 review by Kirsch and Lynn.

Number of efforts made to recall

53 Usually witnesses are asked to recall details of an event more than once. Few studies have examined the effect of repeatedly recalling a memory of an event or person. There is evidence that having an eyewitness recall a memory several times can increase the sum of information reported overall, without a severe increase in errors (eg, Turtle and Yuille, 1994:268, cited in Kapardis, 1997:76).

54 Turtle and Yuille note that while repeated recall may produce more accurate information for the police investigation, any inconsistencies between successive accounts by the witness will be fuel for lawyers to discredit such a witness. This concern, they point out, will be counterbalanced by the fact that repeated recall

will yield more facts about the case. Also, "a unified position on how [memory] is affected by multiple-retrieval attempts should make people aware that gaining and losing details on successive recall is typical of how memory works" (Turtle and Yuille, 1994:269, cited in Karpardis, 1997:77). See also Fisher and Cutler's study which confirms that consistency of testimony in interviews is a poor predictor of identification accuracy (discussed in Cutler and Penrod, 1995:94).

The influence of post-event information

55 One of the principal causes of distortion of a witness's memory is information relating to the observed event that is received subsequently: post-event information. Not only may eyewitnesses be interviewed more than once, but they may also be asked to look at mugshots, they may discuss the events with other witnesses or the police, the interviewer may include other misleading information when questioning the witness, and there may be media reports about the event.

56 During the past two decades researchers in eyewitness testimony have used the "misinformation" paradigm to study how and when information encountered after an event contaminates a witness's memory and makes it unreliable (Kapardis, 1997:77). Experiments show that people take in information acquired during the retention interval and integrate it into their memories, either supplementing their memory or altering or adding to their memories. People are particularly susceptible to having their memories modified when the passage of time allows the original memory to fade, and will be most susceptible if they repeat the misinformation as fact (Loftus, 1979/1996:viii). Post-event information may come from different sources and even from different modalities: a witness may see events, and hear or read a piece of post-event information, then integrate it to produce something that is different from what was actually experienced (Loftus, 1979/1996:226). The effect of the post-event information will be influenced by the strength of the original memory.

57 There is theoretical debate among cognitive psychologists about what effect new information has on the original memory, that is, whether it erases or alters the original memory (integration theory), or creates a new memory which is more readily accessible than the original memory (co-existence theory). Integration theory claims post-event information replaces the original memory and becomes permanently integrated into the person's memory of the event.

Others argue that the original memory is not impaired or weakened and that it could be made accessible given the right retrieval environment. Recovery of the original memory is thus never impossible but is increasingly more difficult. It is argued that the misleading information is accepted by the person who fails to remember original critical details. (See generally Gudjonsson, 1992:91, and Kapardis, 1997:79) This debate is relevant to the issues concerning adults' memories of traumatic childhood events, see chapter 5.

58 Irrespective of whether the original memory can be recalled, the distorted memory created by post-event information may significantly reduce the reliability of an eyewitness's memory of an event and offender. Further, witnesses may strongly believe in their memories, even though aspects of those memories are verifiably false (see, for example, Weingardt, Toland and Loftus, 1994).

Mugshot searches

59 Eyewitnesses are sometimes asked to browse through mugshots of known criminals of a certain type to see if they recognise a crime perpetrator. Experiments indicate that witnesses are able to eliminate a very high proportion of innocent people as suspects and to reduce initially large pools of possible perpetrators to manageable numbers (Lindsay, Nosworthy, Marting, and Martynuck, 1994:122; cited in Kapardis, 1997:238). Clearly, this is very helpful to the police and indicates that mugshots are a useful investigative tool. While it will be clear to the witness that the photographs are of people with a police record, this cannot be prejudicial at the investigative stage.

60 However, problems may arise if the eyewitness is later asked to identify an offender. A number of studies (discussed in Cutler and Penrod, 1995:106–108) have focused on the possible influence of viewing mugshots prior to identifying an offender or suspect. Exposure to mugshots does not influence the accuracy of subsequent identifications if none of the people in the mock lineup were present in the mugshot arrays. However, several experiments have found that people appearing in mock lineups, who also appeared in the mugshots, may be identified as frequently as the actual target is identified. Brigham and Cairns found that prior exposure to mugshots interferes with later identification accuracy but that the errors depend on the decision at the mugshot stage. Subjects tend to remain committed to their earlier decisions. Interestingly,

subjects who were asked to rate the mugshot photographs for attractiveness but not to identify anyone, performed only slightly less accurately at a later photograph array identification than subjects who were not exposed to the photographs. As the mugshot research is based on experimental settings that do not involve real criminals there is no indication as to the effect that the knowledge that a person who appeared in a mugshot must be a criminal will have if that person subsequently appears in a lineup. However, a witness who remembered that he or she had seen the suspect previously in the mugshot would not mistakenly make an identification based on mere familiarity or memory confusion. (The discussion of "unconscious transference" at paras 63–65 is relevant to this issue).

Leading or misleading questions

61 It is well established that the use of leading questions by the police when questioning a witness may impact on the accuracy of the witness's memory. This practice can have the effect of altering the witness's memory through the unconscious adoption, by the witness, of details referred to by the police (Woocher, 1977:985). For example, in a case where the witness's memory of the offender is weak, if the witness is asked whether the offender had a beard, then the witness may incorporate an imaginary beard into his or her memory of the offender. Repeated questioning on details about which the witness is unsure may also cause problems, because once the witness comes to an incorrect conclusion, however tentative, subsequent questioning has the effect of reinforcing the error through repetition.

62 The impact of the misleading questions or suggestions depends on the length of time between the observed event, the witness being given the misleading information, and the identification of the suspect (eg, Loftus, 1979/1996; Hall, Loftus and Tousignant, 1984). Post-event information has the greatest effect when the misleading information is introduced before recall and a long time after acquisition. If the misleading information is an incidental part of a statement rather than the subject, it is more likely that the witness will store the information without scrutinising it for accuracy (Hall, Loftus and Tousignant, 1984; Shepherd, Ellis and Davies, 1982). Similar research has been conducted specifically examining the response of children to different types of questioning, see paras 124–128. Available research indicates that post-event contamination by police officers is more likely when a witness believes that the police know exactly what happened

(Kapardis, 1997:79, citing Smith and Ellsworth, 1987). In addition, developmentally handicapped and mentally disordered witnesses are particularly vulnerable to the misinformation effect (Kapardis, 1997:80, citing Gudjonsson, 1995; Perlman et al, 1994).

Unconscious transference

63 Aside from factors present in the identification procedures described above, there may be other explanations for a mistaken identification in a lineup. "Unconscious transference" (UT) or "displacement" refers to a misidentification of an innocent person ("bystander") who had been previously seen by the witness to the crime in a different context from the crime itself (Read, 1994:57). There have been several studies on unconscious transference (see, for example, Brown, Deffenbacher and Sturgill, 1977 and the other studies mentioned by Cutler and Penrod, 107). The source of the transference may be either post-event information, or memories which predate the event. An example is the frequently cited real life case in which

> [a] ticket agent at a rail road station who was held up at gunpoint subsequently recognised a sailor in a lineup as the culprit. The sailor had a strong alibi, however, and was eventually released from custody. The ticket agent, who was later interviewed in an attempt to determine why he had misidentified the sailor, said that when he saw the sailor in a lineup, his face looked familiar. It was learned the sailor's base was near the rail road and on three occasions prior to the robbery he had purchased tickets from this agent. What had happened was that the ticket agent mistakenly assumed that the familiarity related back to the robbery when it undoubtedly related back to the three times when the sailor bought train tickets. (Re, 1984:512)

64 Ross et al (1994) identify three theoretical approaches to UT. The theory of automatic processing maintains that the witness is not aware of having seen the bystander previously, and that the witness selects the bystander on the basis of familiarity. The theory of source monitoring maintains that the witness remembers both the offender and the bystander separately, but confuses the two memories because of similarities between the memories. The theory of memory blending suggests that even though the witness remembers having encountered both the real offender and the bystander, the witness thinks they are the same person.

65 Ross et al (1994) surveyed the previous literature on UT and concluded that the laboratory studies which comprised the bulk of the research in the area were convincing but lacking in ecological validity (85). Ross et al's own experiments provided evidence for

the existence of UT and the memory blending theory, however, the authors cautioned that laboratory studies do not capture the level of stress or personal involvement experienced by witnesses of real crimes (98). Experiments reported by Read also provided support for UT but suggested that the phenomenon was in fact due to a failure in source monitoring (Read, 1994).

Quality of eyewitness descriptions

66 Several studies have examined the extent to which the general quality of a witness's description of the perpetrator at the time of the offence can be relied upon as an indicator of the accuracy of their identification. Pigott et al's 1990 field study (discussed in Cutler and Penrod, 1995:93) examined the correlation between identification accuracy and three factors relating to the description: accuracy (the extent to which the description matched the person who committed the mock crime), completeness (the amount of detail in the description), and congruence (the extent to which the description matched the person identified in the lineup). This study found that the correlation was not significant; in other words, there was at most a very weak relationship between description quality and identification accuracy. This finding corroborates those of other earlier experimental studies.

67 More recently, Van Koppen and Lochun (1997) studied archival data (2229 descriptions by 1313 witnesses of 582 different robbers in the Netherlands) from official court records kept by prosecution offices.[7] The authors examined how much information witnesses include in their descriptions, how accurate it is, what factors influence the completeness and accuracy of descriptions, and whether description accuracy can be predicted from description completeness. They found that the most frequently mentioned characteristic used to describe the suspect was sex, the second was the height of the suspect, and over half of the descriptions contained information about the age, appearance (including race), skin colour and type of head covering or disguise worn by the offender (670–671). Overall the completeness of the descriptions was rather poor (671–672).

---

[7] In the Netherlands almost all criminal trials are conducted using documented evidence, mainly produced by the police. Witnesses are rarely questioned in court. It is a statutory requirement that the police use as much as possible witnesses' own words as given in their statements (van Koppen and Lochun, 1997:666).

68 The researchers analysed the witness statements in terms of 21 descriptors of the suspect (eg, sex, type of hair, eye shape). Accuracy varied greatly. Sex was reported with perfect accuracy, hair colour descriptions were 73 percent accurate, and both age and appearance were correctly reported in about 60 percent of the descriptions. In contrast, facial hair was almost always incorrect, and both type of hair and type of speech were reported incorrectly in two-thirds of the descriptions in which they were reported (672). They also found that a shorter delay between the crime and the provision of the description, and a shorter distance between the witness and robber, were associated with more complete descriptions.

69 The authors concluded that their study confirmed the results commonly found in both laboratory and real-life studies: descriptions are usually vague and general; witnesses mostly describe general characteristics of the offenders, such as sex, race, height and age. In describing these characteristics witnesses are more often right than wrong (677). Further, their findings confirmed those mentioned above; that completeness of description does not seem to provide a useful tool which could be used by law enforcement agencies for judging the accuracy of a description. The results also suggest that the accuracy of offender descriptions cannot be predicted very reliably from the witness and situational factors measured (680), discussed above at paras 32–44.

70 These results are further supplemented by MacLeod, Frowley and Shepherd's (1994:129–130) review of studies on memory for non-facial body features. Their review suggests that the witness's own physical characteristics can affect judgments about the height and weight of others: in other words, they are used as "norms" or "anchors" against which relative judgments are made (1994:129).

Eyewitness confidence

71 It is typical for police investigators to ascertain an eyewitness's confidence regarding his or her ability to make an identification, both during an interview and once a suspect is identified. Judges, lawyers and jurors also make assessments about the reliability of eyewitness evidence based on their perception of an eyewitness's confidence. (Experiments confirm the commonly held expectation that a person's observed confidence will reflect their subjective confidence: see Nolan and Markham, 1998:44). Studies have consistently found, for example, that jurors regard eyewitness confidence as a valid predictor of the accuracy of eyewitness testimony.

72 A substantial amount of research has been devoted to the association between a witness's confidence and the accuracy of the identification. Cutler and Penrod (1989) meta-analysed nine studies and found confidence in one's ability to make a correct identification was shown to be a poor predictor of identification accuracy (Cutler and Penrod, 1995:95). Bothwell, Deffenbacher, and Brigham (1987) produced a slightly different result when they meta-analysed 40 relevant studies. They found that witnesses who are highly confident in their identifications were only somewhat more likely to be correct compared to witnesses who displayed little confidence in their identifications (Cutler and Penrod, 1995:95).

73 Different explanations have been offered for these findings. For example, Bothwell et al concluded that their results may be over-estimates due to the fact that the confident identifications were more likely to have been obtained under optimal conditions of viewing, retention and recognition (cited in Nolan and Markham, 1998:44). Luus and Wells, in their review of eyewitness confidence studies, cautioned against assuming a reliable relationship between witnesses' confidence about their identifications and their actual accuracy (1994:358–359). By contrast, Sporer et al's (1995) meta-analysis has cast doubt on the findings of earlier reviews that the confidence-accuracy relationship in eyewitness research is a weak one (Kapardis, 1997:64).

74 Confidence is a complex construct that warrants a more sophisticated analysis than has been the case in much eyewitness research (Kapardis, 1997:66). Recent studies have examined the accuracy-confidence relationship in relation to other "moderator variables", particularly different personality factors. There is some evidence that a witness's subjective confidence judgment and the accuracy-confidence correlations may be affected by certain personality types (summarised by Nolan and Markham, 1998:45). For example, Nolan and Markham's 1989 study investigated the role of anxiety at the time of witness questioning in moderating the relationship between accuracy and confidence in an eyewitness recall task. They suggest that "highly anxious" (HA) participants express lower confidence in the accuracy of their answers than "low-anxious" (LA) participants (50). Both subjective and perceived confidence were significantly correlated with accuracy for HA participants but not for LA participants (52).

75 Another factor influencing witness confidence may be confirming feedback offered after an identification. Wells and Bradford (1998) found that witnesses confidence in their identifications increased after they received confirming feedback. The witnesses had all

made incorrect identifications from a photograph lineup in which the target was absent.

IDENTIFICATION PROCEDURES

76 Recognition memory is the memory that is activated when a person sees someone (or something) that they have seen previously. Identification procedures test a witness's recognition memory rather than his or her ability to recall the appearance of the offender and verbally describe it. It should be noted that it is possible for a witness to provide a detailed and unique verbal description which may enable the police to accurately identify the offender. For example, a witness may describe a person as male, Caucasian, 5 feet tall, with red hair, heavy build, with a tattoo of the Virgin Mary on one upper shoulder, and "Mum" on the other. If the police find a suspect with exactly these features, then an identification by the witness would be unnecessary. However, such witness descriptions are very rare.

77 A range of identification procedures are used by the Police, including showups, photographic lineups, video-film lineups and live lineups. In a showup a witness is taken to a location where the suspect is expected to be or might appear and asked to point the offender out. In a lineup the witness is asked to identify the culprit from a group of people which will include a suspect and a number of innocent participants (called "distractors" or "foils") who closely resemble the suspect. In real life situations, police identification procedures always include a suspect. That person, who may be innocent, is suspected of being the culprit of the crime. Psychological experiments on the other hand usually test the identification accuracy of their subjects using two lineups, one containing the culprit (the target) from the staged event or film used in the experiment (known as a "target-present" lineup) and one in which the culprit is absent (known as a "target-absent" lineup).

78 Eyewitness identifications take place in a social context in which the eyewitness's performance can be influenced by expectations and inferences. These may be influenced by the verbal and non-verbal behaviours of investigators, the structure of the identification test, and the environment in which the identification test is conducted (Cutler and Penrod, 1995:113; Kapardis, 1997:73). Other factors already discussed, such as the witness's personality, age, previous memories, and post-event information, may be relevant. As noted in para 39, children are

more likely than adults to make an incorrect selection in a target absent lineup, despite being just as accurate as adults in a target present lineup. This appears to be because they are more vulnerable than adults to the implicit demand that they make a choice. The following sections focus on aspects of different types of identification procedures which may influence eyewitness identification accuracy.

Showups

79 Showups are used frequently by the NZ Police and vary greatly in practice. For example, an officer may drive the witness around the vicinity of the crime in the hope that the witness will identify the suspect. Or, the witness may be taken to the entrance of a court where it is known the suspect will appear, and be asked to identify anyone who resembles the alleged offender. In another scenario the suspect will be asked to sit inside an unmarked police car at the crime scene and the witness asked to identify the alleged offender from the people at the scene.[8]

80 Police in New Zealand and other jurisdictions favour the use of such informal procedures largely on the grounds of practical convenience. Some psychologists have expressed concern that these procedures are significantly more likely to lead to false identifications than lineups (eg, Kassin et al's 1989 survey of USA eyewitness testimony experts, cited in Kapardis, 1997:240). However, results of psychological experiments which examine identification accuracy of showups versus multiple person lineups are mixed (Wagenaar and Veefkind, 1992:282; Gonzalez, Ellsworth and Pembroke, 1993). The difference in findings may reflect differences in the events staged, the subjects used, the length of retention period, and the option provided to witnesses in one study to say that they could not remember (Kapardis, 1997:242).

81 Gonzalez et al analysed data from 172 actual live showups and 50 actual photograph lineups and found that in both live and photographic procedures witnesses were more cautious in making an identification in a showup than in a lineup (Kapardis, 1997: 241–242). Later experimental studies attempted to take into account guessing by subjects. Yarmey et al's 1994 study found that, taking into account guessing, witnesses were more likely to identify a target in a 6-person lineup than in a showup. Accuracy in showups was little better than chance (cited in Kapardis, 1997:242). In a

---

[8] Informal survey of NZ Police practice conducted by the Law Commission, 1995.

later study Yarmey, Yarmey and Yarmey (1996) concluded that accuracy of performance was superior in 6-person photographic lineups than in showups over time (comparing performance immediately, then after 30 minutes, 2 hours and 24 hours) and that false identifications of a lookalike innocent suspect were significantly greater in showups than 6-person lineups.

Photographic and live lineups

82 In New Zealand, photographic lineups are the most commonly used identification procedure. When compiling a photographic lineup, the police assemble photographs of at least 7 people who resemble the suspect. The witness is shown these photographs with a photograph of the suspect and asked to identify the offender. The police also have a new computerised photographic image management system (PIMS). All negatives of prisoner photographs are sent to Police National Headquarters (PNHQ) to be stored on this system. Police can now send a request to PNHQ for a photographic lineup comprising photographs of people who are similar in appearance to the suspect (the photographs are front and side profile, head and shoulder colour photographs; sometimes the top part of the person's clothing is visible).[9]

83 There are a number of limitations to photographs as an identification medium compared to video or live identification procedures: photographs are static; they test a person's picture recognition accuracy rather than face recognition accuracy (Bruce, 1988); often they give information about a person's face from only one or two views (face on and a side on profile) and they do not provide information about the person's body (eg, height and weight) (Davies, 1989; cited in Kapardis, 1997:233). Unlike a static picture, motion gives information about a face from a variety of views as well as information about the effects of illumination, and thus can provide information that can be used to increase identification accuracy (Pike and Kemp, 1995:26, in Kapardis, 1997:233). Whether these differences impact on identification accuracy is discussed at paras 85–87.

84 Live lineups are rare in New Zealand. No statistics are kept by the NZ Police, however, an informal survey of police throughout the country gave the impression that identification is an issue in roughly one quarter of all criminal cases, and in less than 20% of those cases identification parades are held.[10] This is similar to police

[9] NZ Police, correspondence, 14 October 1996.

[10] NZ Police, correspondence, 14 October 1996.

practice in other Western English-speaking countries such as Britain, Australia, Canada and the USA. Kapardis points out that the tendency of psychologists to focus on the reliability of lineup identifications, to the exclusion of other more commonly used identification procedures, is unfortunate and may skew the overall picture of the reliability of eyewitness identifications:

> Without wishing to downplay the seriousness of witness misidentification and the conviction of innocent suspects, the reader should note that psychologists' exclusive focus on misidentification of innocent suspects in lineup identification, and by presenting this phenomenon in a somewhat stereotypical way against an over-typical background, most probably distorts the picture, for there is generally a failure by researchers to locate the issue of misidentification in a broad psycholegal context. . . . The need to also know about the incidence and factors underpinning accurate witness identification with *different identification procedures* cannot be overemphasised. (Kapardis, 1997:243; emphasis added)

Medium

85 The identification test medium is the medium through which the person whose identity is being tested is shown to the witness. It may be a live appearance, video-film, photograph or drawing. The medium of an identification test can pose limits on the cues (that is, all a person's physical features that potentially contribute to recognition) available to an eyewitness. For example, photographs cannot provide cues concerning a person's gait or other forms of body movement or voice; in addition, mugshots showing only a front, head and shoulders view of a person do not provide cues that would be available from a profile or three-quarter, or full body view (Cutler, Berman, Penrod and Fisher, 1994:164). In theory, identification test media which provide a greater number of cues could result in more accurate identifications.

86 Do different identification test media produce different identification performance? There is some evidence that procedures using live subjects produce more reliable results than those using video recordings, while procedures using video recordings produce more reliable results than those using photographs (eg, Egan, Pittner and Goldstein, 1977 (photographs vs live lineups); Cutler, Fisher and Chicvara, 1989 (videotaped vs live lineups)). Davies, Ellis and Shepherd's 1978 study on face recognition as a function of mode of representation found that subjects recognised photographs significantly more accurately than line drawings, which in turn were superior to outlines (1978:186).

87 However, in their recent meta-analysis of experimental studies (including Shapiro and Penrod's 1986 meta-analysis of facial recognition studies, outlined in Cutler and Penrod, 79–81) Cutler, Berman, Penrod and Fisher found that the effect of the identification test medium used (live lineups, photograph arrays, video-taped lineups, slides, and line drawings) varied considerably across experiments. They found that when averaged across studies, varying availability of cues produced a trivial effect on identification accuracy. They stated:

> With respect to current practices, the conservative conclusion is that, based on available research, there is no reason to believe that live lineups, video-taped lineups, or photograph arrays produce substantial differences in identification performance. Based on what is currently known, identifications from photograph arrays should therefore not be given less weight in investigations or in trials than identifications from live lineups. Another conclusion is that, given the apparent compatibility of live lineups and photograph arrays, it is not worth the trouble and expense to use live lineups. (1994:181)

Size

88 The term "functional size" refers to the number of distractors in a lineup in relation to the number of suspects. The number and quality of distractors in an array or lineup have been shown to influence its fairness.[11] To minimise chance identifications, Wells et al recommend that an array contain only one suspect and a minimum of five appropriate distractors (Wells et al, 1994:229). They acknowledge that there is an arbitrary aspect to this number, but argue that there are clear theoretical arguments about the rate at which false identifications can be expected to decline as a function of the ratio of distractors to innocent suspects.

89 Whether distractors are chosen due to their similarity with the suspect, or the witness's initial description of the offender, may impact on the functional size of a lineup (Wells et al, 1994:229; see also Kapardis, 1997:251 and Cutler and Penrod, 1995:125). Wells et al make their functional size recommendation dependent on "appropriate" distractors being chosen (this is discussed below).

---

[11] Cutler and Penrod (1995:114) define unfair procedures to mean those which are under the control of police investigators and which enhance the likelihood of the eyewitness selecting the suspect (who may be innocent) from a lineup, rather than a distractor; a crude example being a lineup comprised of one black suspect and five white distractors.

Distractors

90 Historically, psychologists have advocated maximising the similarity of appearance between distractors and the suspect (Cutler and Penrod, 1995:124). Wells, Lindsay and Ferguson (1979), however, disagree and argue that given this advice the ideal lineup would be one of clones (see also Luus and Wells, 1991, citing Shepherd, Ellis and Davies, 1982, and Wells and Luus, 1990). Instead, Wells et al advocate lineups comprising distractors who match descriptions given by the witness at the time of the crime on all features mentioned, but that the distractors should be permitted to vary on features not mentioned in the witness's description. They argue that in this way innocent suspects are protected from being selected by witnesses. The features that are common only to one or a small number of the distractors are the features that test the recognition of the witness (see Luus and Wells, 1991:48–51).

91 There is some relatively recent scientific evidence to support the proposition that distractors should be chosen by their similarity to the witness's initial description of the offender (Luus and Wells, 1991:43; Navon, 1992:575) however, further research is required. Luus and Wells note that this strategy for selecting distractors may be problematic in at least three types of situation, including when the eyewitness's description does not resemble the suspect but the police have some other evidence against the suspect (eg, possession of stolen goods) (1991:53–55). They suggest some useful strategies to adopt in such situations.

Clothing

92 Studies have examined the extent to which the clothes worn by lineup members influence identification performance, and whether witnesses use clothing as a cue in the identification process. This is significant if a suspect is wearing clothing similar to that worn by the offender. Lindsay, Wallbridge, and Drennan (1987) combined data from three experiments conducted on 392 subjects and found that the rate of false identifications was significantly higher where biased clothing conditions were used (ie, only the suspect wore identical clothing to that worn by the perpetrator during the staged crime). They concluded that clothing-biased lineups substantially increased the likelihood of false identifications (described and cited in Cutler and Penrod, 1995:126–127; Kapardis, 1997:250–251). The study indicates that when a perpetrator is in the lineup, the degree of similarity in clothing between the suspect and the distractors does not influence

the number of correct identifications, but does lead to significantly fewer false identifications if distractors are dressed in exactly the same clothes as the perpetrator.

Instructions

93 Instructions given to eyewitnesses prior to identification can vary in their degree of suggestiveness (in the sense that they may enhance the likelihood that the person will make a positive identification, whether correct or not). As described by Steblay:

> The witness is provided with a scenario in which the task is clearly defined (choose the perpetrator from the lineup), and in which the familiar script is augmented by instructions from an authority figure which may provide informational social influence (the perpetrator is in the lineup) as well as normative social influence (the correct response is to make a choice). (Steblay, 1997:284)

94 In their review of studies in this area, Cutler and Penrod concluded that there is strong evidence that suggestive identification instructions influence witness performance: they will substantially increase the likelihood of false identifications, particularly in lineups where the offender is not present (122). Kapardis, on the other hand, notes that Köhnken and Maass challenge using the research on biased instructions to draw conclusions about actual lineups because their own findings indicate that "the instructional bias effect observed in previous experiments is limited to subjects who are fully aware that they are participating in an experiment". They suggest that the fact that they failed to find a significant increase in false identifications as a function of biased instructions "suggests that eyewitnesses are better than their reputation" (Köhnken and Maass, 1988:369, cited in Karpardis, 1997:253).

95 More recently Steblay has conducted a meta-analysis of 18 articles providing 22 tests of hypotheses regarding the effect of lineup instructions. The sample included work published between 1975 and 1996, representing 2588 subjects (1997:287). This meta-analysis supports the hypothesis that biased instructions significantly affect eyewitness lineup identification performance, producing the strongest effect when it is suggested to the witness that the perpetrator is present and no explicit option is given to reject the lineup (294).

96 Interestingly, instructions that suggested to the witness that the perpetrator was in the lineup and that provided no explicit option to reject the lineup produced significantly more correct identifications in a target-present lineup than did the unbiased

instructions. This is likely to be due to the fact that, where an uncertain eyewitness believes that the perpetrator is present in the lineup and feels compelled to make a choice, they are likely to use a relative judgement strategy and choose the person who most resembles their memory of the perpetrator. In a controlled experiment where the target is present in the lineup, this strategy works. However, in real lineups there is no certainty that the perpetrator is present and the person chosen may be an innocent suspect who resembles the true culprit. More pertinently, results clearly demonstrated that biased instructions significantly decreased identification accuracy in target-absent lineups (Steblay, 1997:294). More studies are required in this area to determine to what extent these findings apply to real life situations.

Presentation

97 There has been great interest in the scientific community about the best method of presenting lineups. NZ Police use simultaneous presentation for identification procedures: the witness is shown all the participants or images at once and asked to decide which one is, or represents, the offender. This involves comparing the participants or images before coming to a conclusion and may include an element of guessing. In a sequential procedure the witness is shown the participants or images individually and asked if this person or image is the offender. The participants or images follow one another in a cycle until they are all finished or the witness has identified the offender. It is hypothesised that sequential procedures involve absolute judgment processes, which are better and more accurate than the relative judgments required in a simultaneous presentation. Because sequential procedures only allow the witness to see one image at any one time, the witness must therefore analyse the image, compare it with the memory of the offender, and then make an absolute judgement regarding identity.

98 Psychological studies indicate that using sequential procedures rather than simultaneous procedures only slightly increases the incidence of correct identifications when the target is present. However, sequential procedures do result in a significantly lower rate of false identification than simultaneous procedures in target-absent lineups. For example, in Lindsay and Wells' (1985) experiment 43 percent of eyewitnesses exposed to a simultaneous lineup made a false identification whereas only 17 percent of eyewitnesses shown the same lineup sequentially made a false

identification (Cutler and Penrod, 1995:128). The results of these studies have been replicated a number of times over. The reduction in the number of false identifications in target-absent lineups implies that witnesses are guessing less often when sequential procedures are used. Sequential procedures appear to have similar beneficial effects for children's performance (Parker and Ryan, 1993:21; Cutler and Penrod, 1995:135).

99 Lindsay, Lea and Fulford (1991) conducted a series of experiments examining whether sequential presentation reduces the impacts of other biasing aspects of identification procedures for clothing, distractors or instructions. The first experiment replicated earlier results in finding that sequential presentation significantly reduces the false identification rate in the target-absent situation. Their second experiment found that the influence of clothing bias was minimised by sequential presentation. It also appears from their third and fourth experiments that sequential presentation minimises the effect of distractor and instruction bias respectively. Their fifth experiment found that sequential presentation overcame the combined influence of all three types of bias (clothing, distractor, and instruction). These experiments did not, however, explore the impact of investigator bias, that is, whether the person conducting the lineup knows the identity of the suspect (see para 102).

100 Research has shown that the reduction of false identifications in sequential procedures, as compared to simultaneous procedures, is diminished in circumstances where:

- the witness is told the number of participants or images they will be shown in the lineup;
- the witness is shown the participants or images more than once, particularly if the second lineup is presented simultaneously;
- the participants or images are dissimilar to the suspect (Lindsay, Lea, Nosworthy, Fulford, Hector, LeVan, and Seabrook, 1991; Lindsay, Lea and Fulford, 1991; Cutler and Penrod, 1995: 127–135).

101 While there is considerable empirical support for the superiority of sequential identification procedures, it may be premature to recommend that *all* identification procedures be presented sequentially. Wells et al caution that police who do not or cannot ensure investigator impartiality may create more problems in sequential than simultaneous procedures (Wells et al, 1994:241).

Investigator

102 Some psychologists have hypothesised that an investigator who knows which lineup member is the suspect can inadvertently, or advertently, bias the eyewitness through non-verbal cues such as leaning forward, smiling, and nodding. There is no published data confirming that the lineup administrator's knowledge of who the suspect is influences the subjects' decisions, however, there is some unpublished data confirming this hypothesis. Cutler and Penrod tentatively refer to lineups in which the investigator knows the identity of the suspect as suggestive (1995:135). Wells et al, (1994:236) recommend that the lineup administrator should not be aware of which person in the lineup is the suspect and which persons are distractors. This is another area in which further research is required.

4
Children's memories

INTRODUCTION

103 THE EVIDENCE OF CHILDREN has been regarded with suspicion in common law jurisdictions for most of the 20th century. Until recently, judges were required to warn juries of the need to scrutinise the evidence of young children with special care as children were believed to be prone to invention and distortion. However, in the 1970s and 1980s the number of child witnesses appearing in court increased, while at the same time research demonstrated that in some circumstances children were capable of giving reliable testimony from a very young age. This resulted in a change in attitudes and many jurisdictions, including New Zealand, legislated to prevent judges from giving a warning based solely on the age of a child.[12] Recently, it has been argued that there is a perception that children's testimony is completely reliable and there ought to be a warning to juries that this is not the case. We prefer the view expressed by Goodman and Schaaf that:

> [c]hildren's abilities are complex: one can focus on the strengths or weaknesses of children's memory to justify a positive or negative view. What is difficult is to find the right balance. (1997:S5)

104 In recent years much research has been undertaken relating to aspects of children's memory. For accounts which attempt to condense the information see: Spencer and Flin, *The Evidence of Children: The Law and the Psychology*; McGough, *Child Witnesses: Fragile Voices in the American Legal System*; the Ontario Law Reform Commission, *Report on Child Witnesses* (OLRC, Toronto, 1991); and Ceci and Bruck, *Jeopardy in the Courtroom: A Scientific Analysis of Children's Testimony*. In October 1996, the Law Commission published *The Evidence of Children and other Vulnerable Witnesses* (PP26), a preliminary paper which included an appendix summarising psychological literature on the reliability of children's

[12] Section 23H of the Evidence Act 1908.

testimony. It also considered whether children were predictably less reliable in their recollections than adults. This chapter reproduces and updates the information contained in that appendix.

105 As we stated in the preliminary paper, it is generally agreed that the memories of both adults and children are fallible. Adults, like children, may be mistaken in their perceptions and confused in their memories. We stated that the appropriate question to ask is whether children, in particular young children, are predictably *less* reliable than adults. It may be more appropriate to ask what are the conditions under which young children provide the most complete and accurate accounts of past events (Pipe, 1996:38).

MEMORY PERFORMANCE

106 For many memory tasks, including those which involve recognition, even quite young preschool children form memories which are reliable and quite organised compared to adults (eg, Ceci and Bruck, 1993:235; Myers, Saywitz and Goodman, 1996; Pipe, 1996). Children, including very young children, are capable of giving very accurate accounts of a wide range of events, although these accounts will typically be lacking in detail.

107 There is a reasonable consensus that children's abilities to recall and communicate develop with age, and that it is a combination of children's knowledge, their skills and social factors which influence children's memories and their ability to recall past events (Pipe, 1996). The following limitations, which operate at all three stages of the memory process, need to be born in mind:

- children view the world differently from adults, the information about an event which a child considers important and selects for remembering will be determined by the child's knowledge and level of development;
- unlike older children and adults, young children cannot spontaneously use complex memory strategies to increase the amount of information they recall;
- young children are very dependent on context to prompt their memory for an event;
- children and adults differ in their ability to narrate a past event (Myers, Saywitz, and Goodman, 1996).

108 Research indicates that these limitations are not immutable (Pipe, 1996). Equalising the knowledge base has been shown to diminish

age related differences in memory ability. For example, in Chi's 1978 study expert child chess players performed better than adult non-chess players at recalling chess positions, indicating that knowledge rather than age was the more important determinant of memory (cited in Pipe, 1996). Teaching children to use strategies that help encode and retrieve information has also been demonstrated to decrease age differences in memory (Kobasigawa, 1974, 1977, cited in Pipe, 1996). In addition, if the event is personally significant, or the actions are central and familiar to the child, then a child's memory may be enhanced and developmental differences can often be reduced (but see para 127).

109 Difficulties in ordering complex and less familiar events, or recalling the exact date of events, or estimating distance or speed can sometimes also be overcome. A child may be asked to position events in time in relation to an important event in the child's life, such as a birthday, or asked to give relative estimates of things such as speed or height. For example, asking a child to compare the height of the suspect with the height of the interviewer. It must be remembered that adults sometimes have the same difficulties and prefer to give relative estimates (see paras 66–70 in relation to adult eyewitnesses' abilities to make accurate estimates about such matters).

REMEMBERING EVENTS

Free recall and recognition

110 A consistent finding in the literature is that young children spontaneously recall less information than older children and adults (Pipe, 1996:38). Children who are asked to freely recall an event are generally regarded as being capable of providing accurate information, but they report less information, partly because of less developed communication skills. The younger the child, the less detail they will spontaneously report. There appear, therefore, to be significant age differences in quantity but not quality of freely recalled details. Interestingly, age differences in recognition memory are far less pronounced than for free recall and at times may be non-existent (Ceci and Bruck, 1993:404). The studies indicate that preschoolers' recognition memory can be remarkably accurate, and that, like adults, children remember more details than they spontaneously report.

111 Children may therefore require more assistance than adults to recall all they know; for example by the use of cued questions. Pipe, in her literature review, also concluded that children will recall more

information if provided with adequate support (1996:42). However, the type of support provided – whether props or a certain kind of questioning – is critical (see paras 113–119).

112 Like adults, children may have difficulty answering questions about peripheral detail. However, in some instances, children will provide details which adults would have overlooked. This is because "what is central and what is peripheral in any given situation is entirely in the eye of the beholder, irrespective of the beholder's age" (Spencer and Flin, 1993:302).

Responding to questions and other prompts

113 As mentioned, young children need more specific cues and a greater number of cues, to access, retrieve and report specific memories in detail. Young children's accounts can be reliably enhanced, at least when the children are interviewed soon after the event. However, the methods used to draw out the further information must be carefully monitored to ensure that they do not compromise accuracy.[13] Psychological studies on children's suggestibility are highly relevant to the conduct of interviews (see paras 124–128). It also appears that children should not be questioned in a linguistically complex manner – such complexity will diminish the accuracy of children's recall regardless of interviewer style, subject matter, or the suggestiveness of the question (Carter, Bottoms, and Levine, 1996:349). Unfortunately, complex questioning is a feature of examination and, more particularly, cross examination of child complainants in sexual abuse cases in New Zealand (Davies and Seymour, 1998; Davies, Henderson and Seymour, 1997).

114 To obtain additional information it is usually necessary to structure the child's recall by using focused questions and physical props to prompt memory. Prop items, especially actual items from an event, may help the retrieval of information and enhance children's verbal accounts. There are many kinds of props and techniques that can reliably be used to help children remember and report events, for example the cognitive interview (see para 50).

115 On the other hand, some kinds of props (especially toys) may prompt inaccuracy. It has been suggested that this is due to the inability of young children to treat a toy as a representation (Pipe,

---

[13] The importance of the use of correct interviewing procedures by the police and forensic psychologists is discussed in *Y v Y* (HC Auckland, February 1998, HC 122/97) and *Re D (minors)* [1998] 2 FCR 419.

1996:39, citing a number of studies by DeLoache and colleagues). This may be more relevant for very young children. Five year olds seem able to make the connections between models and toys to the items they represent, and to use that relationship when talking about past events (Priestley and Pipe, 1997:75). Encouraging children to interact with props, however, may increase report errors. Children may be more likely to attend to the props as play things and be distracted from the central task of using the props to help them talk about their past experiences. Not all studies have found that the use of toys increases errors (Priestley and Pipe, 1997:70). Priestley and Pipe's study showed that increasing the number of props, or the similarity of the props to the items they represent (either in terms of physical similarity or spatial arrangement of the items) increased their effectiveness (1997:84). The authors suggest that the effect of prop items is likely to depend on the nature of the prop items, the way in which they are used in the interview, and the nature of the event being recalled. In their study the event and prop items were relatively unique and distinctive, many having been constructed for the study (85).

116 Everson and Boat (1997) considered the use of anatomical dolls in forensic interviews with children, particularly in sexual abuse cases. Their article set out the different functions these dolls can have in a forensic interview, including use as an icebreaker (a conversation starter on the topic of sexuality) or as a demonstration aid (a prop enabling a child to "show" rather than "tell" what happened) (S56–S57). They reviewed the controversy about the use of anatomical dolls and highlighted a number of important points about their use in interviews. The authors concluded that there is growing evidence that the use of anatomical dolls does enhance children's recall when compared to purely verbal interviews (S60).

117 The authors also discussed research bearing on whether anatomical dolls induce non-abused, sexually naīve children to engage in behaviour with the dolls that is likely to be misinterpreted as evidence of abuse. A review of studies of children not known to be abused found that inspecting and touching sexual body parts on the dolls was fairly common, however, play demonstrating explicit sexual activity such as intercourse or oral-genital contact was rare (4 percent of a combined sample of 550+ children over ten studies). There was evidence that such play may be traced to a source of sexual exposure, such as pornography or observation of sexual behaviour among teenage relatives. The authors concluded that, taken as a whole, the literature on children's normative behaviour with anatomical dolls fails to support the claim that dolls stimulate

explicit sexual play in sexually naïve children, or that explicit sexual play with dolls arises from innate factors independent of sexual exposure and experience (S62).

118 Everson and Boat also discuss a second body of research which is relevant to the suggestiveness debate, the use of anatomical dolls to interview children who have experienced a known medical event involving touching of the genital or anal area. Some of this research has found the use of anatomical dolls to be associated with increased suggestibility (see for example, Ceci and Bruck, 1993). Everson and Boat consider that methodological problems common to this body of research, such as the use of suggestive and leading questions in combination with anatomical dolls, meant that conclusions based on it are not applicable to the use of anatomically correct dolls in a procedurally correct, non-suggestive forensic interview (S63). Nevertheless, the use of anatomically correct dolls remains controversial, especially with young children. As was noted in para 115, very young children may be unable to treat the doll as a representation and thus use of the doll may impede rather than facilitate their ability to provide accurate testimony (Ceci and Bruck, 1993). Certainly, the effect of dolls on the accuracy of children's reports will, as is the case for any props, depend on each individual child's cognitive abilities and the way in which the dolls are used in the interview context.

119 One recent study focused on whether photographs, in conjunction with other interview aids, may assist young children in terms of the amount and accuracy of information recalled. Aschermann, Dannenberg, and Schulz's study found that children benefited from photographs[14] as a retrieval aid in addition to a "reinstate context" instruction (adapted from the cognitive interview, see para 50) when recalling a past event with an unknown adult (1998:62). The authors suggested that the instruction to children to first identify the relevant picture prior to questioning may have prevented additional errors (63). Drawing is another technique which may increase the amount of verbal information recalled by young children without a decrease in accuracy. For example, Butler, Gross and Hayne's 1995 study suggests that drawing benefits 5–6 year olds but makes no significant difference to the performance of 3–4 year olds. Gross and Hayne's 1998 study indicates this effect is maintained for young children's verbal reports of their emotional experiences.

---

[14] The study used 5 posters, each containing 5 black and white photographs. One photograph depicted a person or an object relevant to the event, the other four photographs depicted distractor items (Aschermann et al, 1998:59).

The narrative ability of young children

120 Young children may recount their experiences in a manner different to that of adults and older children. MacDonald and Hayne (1996) demonstrated that 3 and 4 year old children can provide accurate, but considerably different, information about an exciting event to a parent and to an interviewer. The parents had been instructed to carry out normal discussions during the week following the event, without pressing the child for details. The interviewer questioned the child a week after the event, using free recall and open questions. This result suggests that differences in children's accounts on different occasions in clinical and legal settings, should not necessarily be interpreted as a lack of reliability, at least when the child is questioned in a non-suggestive manner.

121 The young child's lack of verbal skill affects the ability of adults to correctly interpret the child's meaning (Sutherland, Gross and Hayne, 1996). Sutherland, Gross and Hayne tested the ability of adults to understand accounts of a past event by a 3 year old and a 6 year old. The adults gleaned more information from the 6 year old's account than the 3 year old's account. They concluded that an adult's ability to understand children's testimony increases as the child's narrative ability develops with age. This points to a need for training and skill in the questioning of very young children.

THE EFFECT OF DELAY

122 Delay has a greater effect on the spontaneous recall of young children as compared to adults. Specific prompts and cues, such as photographs of the event, will enhance recall. However, the use of prompts may also elicit much unreliable information (see paras 113–119). Shrimpton et al's 1998 study confirmed earlier research about the effect of delay. They found that children's memories for an event (one stressful and one not) were better in an earlier interview (after 2–7 days) compared to children first tested after a lengthier delay (6–8 weeks) (1998:141). Also, children who had both an early and later interview gave more correct responses in free recall than children first interviewed at 6–8 weeks (139).

123 Most writers consider that the memories of young children are generally more susceptible to fading than those of older children and adults (see also Fivush and Shukat, in Zaragoza, Graham, Hall, Hirschman and Ben-Porath (eds) (1995); for a recent summary, see McGough, chapter 4). Although there is some evidence that younger children may forget more quickly than older children,

occasionally older children may forget more over time than younger children, perhaps partly because they remember more in the first instance.

SUGGESTIBILITY[15]

124 It seems fair to conclude from recent research that although the accuracy of both adults and children can be affected by leading or suggestive questions,[16] the ability to resist the influence of external suggestion increases with age (Ceci and Bruck, 1993). Children of 10 or 11 appear to be no more suggestible than adults (Myers, Saywitz, and Goodman, 1996; compare Pipe, 1996, who suggests that the likelihood that a child will resist a misleading suggestion increases with age, until about the age of 8). As younger children have been shown to be more suggestible than adults and older children, interview aids must be used carefully to avoid the possibility of influencing the child's recall. Children may also change their account of an event not because their actual memory of the event has altered or become confused but because they wish to comply with the suggestion of an adult in authority or because they interpret an adult's repeated questioning as an indication that their first response was judged "wrong" (Spencer and Flin, 1993:305–306; McGough, 1994:71–73).

125 In other words, children's suggestibility is not just a function of age – it also depends on the interaction of age with other cognitive and social factors (Goodman and Schwartz-Kennedy, 1992). A child, and also many adults, will be less open to suggestion if:

- the event is familiar, or personally significant; memories of events are stronger and less likely to be "contaminated" by other sources, if they are personally experienced (Pipe, 1996; compare Poole and Lindsay, 1995);
- the information is central to the event from the child's perspective (young children may regard some details as central which older children may not);

---

[15] For a comprehensive summary on the topic of suggestibility see Doris (ed), *The Suggestibility of Children's Recollections* (American Psychological Association, Washington DC, 1991).

[16] See for example Spencer and Flin, 303; research referred to by the Ontario Law Reform Commission, *Report on Child Witnesses*, 14–16. Also Bruck, Ceci, Francover and Barr, "'I Hardly Cried When I Got My Shot!' Influencing Children's Reports About a Visit to Their Pediatrician" (1995) 66 Child Development 193.

- the child is not embarrassed about the information (Goodman and Schwartz-Kennedy, 1992:31);[17]
- there is minimal delay between the event and the reporting of it (this is also true for adults; Loftus and Davies, 1984:63);
- the interviewer is skilled in questioning children;
- questions are appropriately worded and not beyond the child's level of comprehension;
- the interview surroundings are supportive; and
- the child does not perceive the interviewer as an authority figure who must be obeyed or pleased (Spencer and Flin, 1993:306).

126 Providing children with training designed to increase their ability to resist suggestion may also be effective. Such training is described in Saywitz and Moan-Hardie, 1994, and Gee, Gregory and Pipe (in press). Interviewing techniques may also reduce the risk of suggestion, for example, by emphasising to the child that he or she is not expected to know all the answers and that the child may say "I don't know". Powerful social rules may operate on the child; for example, the desire to please the adult, to terminate the interview as soon as possible, and a belief that the adult knows best or has superior knowledge. Research suggests that the following interview techniques may also reduce the suggestibility effect for young children:

- repeated use of open questions in order to elicit more information (Memon and Vartoukian, 1996);
- explicit statements that explain why questions may be repeated (Memon and Vartoukian, 1996);
- explicit statements that the child may have received misleading information and not to base recollections of the event on it (although there is little research on this; see Lindsay, Gonzales and Eso described by Memon and Vartoukian, 1996);
- social support (ie, the child is interviewed in a warm rather than intimidating manner) (Carter, Bottoms and Levine, 1996).

127 As Bruck, Ceci and Hembrooke (1998:141) note, in the first 80 years of this century most of the research on suggestibility focused on the effects of asking a single misleading question or of providing

---

[17] See in particular Saywitz and Moan-Hardie "Reducing the Potential for Distortion of Children's Memories" (1994) 3 Consciousness and Cognition 408.

erroneous post-event information. They state that suggestive interviews are now conceived of as a complex mingling of motives, threats, and inducements which may appear in the form of misleading questions. Unfortunately, this reflects the conduct of some real life investigations. In their review of relevant studies, Bruck et al conclude that suggestive techniques not only influence recall of peripheral and unimportant details, but also lead to false claims about a wide range of events, many of which are personally meaningful such as bodily touching (1998:142).

128 A recent study examined the influence of suggestions provided to *interviewers* prior to questioning (White, Leichtman, and Ceci, 1997). The study was an attempt to emulate the real life situation in which interviewers might have contact with parents, police and therapists prior to an interview, and to consider what effect on questioning this prior contact may have. Results indicated that suggestions to interviewers determined the questions they then asked. Younger children acquiesced more often than older children (a consistent research finding) to questions based on inaccurate information. Their findings suggest that preschoolers' reports about personal bodily experiences (ie, touching) are not exempt from the influences of an adult's misleading questions (S52). What the authors called "bizarre misleading questions" concerning interactions of a highly personal nature (for example, kissing, hugging) exerted a "sleeper effect" on children's responses over the period of two interviews. They did not appear to elicit inaccurate elaboration responses in the first interview, but did elicit errors (compared to normal questions) in the second interview. The authors caution readers that their sample is small and that there are a number of possible reasons for their findings (for example, the playfulness of the interviewer, and the type of event children participated in (a Simon says game)).

FALSE MEMORIES

129 According to a review of studies by Bruck, Ceci and Hembrooke (1998:140) some data indicates that when accuracy drops off, it is not merely the case that children forget and therefore make errors of omission, but that they also make errors of commission. This, of course, is also possible for adults. Generally, such errors are minor and relate to a detail that was part of an event that did occur. A number of studies have demonstrated that under certain conditions it is possible to plant events in memory. Research indicates that it is much more difficult to suggestively plant a false memory than it is to suggestively change an existing memory (Pezdek and Roe, 1997).

130 Some studies have attempted to explore whether young children have difficulties distinguishing between real and imagined events, in other words whether they are less able than older children and adults to distinguish between various sources for their memories. This area of research is relatively unexplored. Some studies have suggested that children could be more vulnerable to confusion between actual and suggested events when they are perceptually and semantically similar. For example, distinguishing between watching a video in which a girl touches her nose, compared to imagining the girl touching her nose (Lindsay et al cited in Ceci and Bruck, 1993:418). There is as yet no clear data to link children's suggestibility to source monitoring difficulties (Ceci and Bruck, 1993:418).

5
"Recovered" memories

INTRODUCTION

131 OVER THE PAST FEW YEARS media attention in New Zealand and overseas has focused on adults' "recovered" memories of childhood sexual abuse; memories they claim to have recalled after a period of full or partial forgetting. Concerns have been expressed about the accuracy of such memories given the length of time between the event(s) and the recall of the memory, the apparent partial or full amnesia for the event(s) for that period of time, and the possible influence of therapy techniques on the veracity of those memories. The New Zealand Psychological Society's report on memory of traumatic childhood events states that there are two issues at the heart of the debate:

- what is the fate of memories of traumatic experiences?
- can memories of traumatic experiences that were previously inaccessible later become available for report? (Corballis, Pipe and McDougall, 1997:307)

FORGETTING AND REMEMBERING TRAUMATIC EVENTS

132 It is a common anecdotal observation that people forget. The fundamental theoretical question of whether forgetting is the result of actual loss of information stored or encoded, or whether it is the loss of *access* to that information (which remains stored forever), may be unanswerable in principle (see also paras 57–58). The suggestion that some events may be more likely to be forgotten is not a new one. However, the factors which underlie forgetting are elusive (Loftus and Loftus, 1980). A number of factors may influence whether an event is forgotten. These include expectations, attention, rehearsals, retellings, post-event information, trauma or shock, and time. Psychological literature reflects a traditional assumption that memory for traumatic events may differ from that of other events.

133 Anecdotal reports, case studies and experimental research demonstrate that traumatic events can be remembered quite well,

and that they can also be forgotten. Many studies of the adults and children involved in documented traumatic events report that while the individuals exhibit "severe post-traumatic psychopathology", many recall the events in extraordinary detail. A number of other studies, while not specifying the nature of the memory deficits, have also documented memory disturbances for traumatic events such as tornado, fire, and aeroplane crashes. One study on the memory of concentration camp survivors over a period of 40 years suggests that painful and traumatic experiences are sometimes remembered in detail. However, the study also indicated that such experiences can be forgotten. For example, one person witnessed a murder and later forgot, and even denied having said that he had witnessed the event (Wagenaar and Groeneweg, 1990).

134 Throughout this century psychologists have been interested in the way in which people remember emotional events and have investigated this through case studies and other non-experimental means. A line of experimental studies seems to show that people do not remember the details of the emotional event as well as the details of the neutral event. Christianson and Loftus (1991) concluded on the basis of their experimental studies that, compared to a neutral event, an emotional event was well retained with respect to memory of a detail associated with central information. However, a detail associated with peripheral information was less well retained. The authors acknowledged that generalising from their findings to other situations presents the problem of determining which details are central and which are peripheral. The studies on "weapon focus" are also relevant, see paras 36–37.

135 A number of studies have suggested that people can forget a traumatic event for a period of time and then later "recover" or recall their memory for the event (this may be described as "recovered memory"). Most of these studies have been based on subjects' own retrospective reports which were often not corroborated. However, in Williams' (1994) prospective study investigating the forgetting and later remembering or "recovery" of memories of childhood sexual abuse, independent corroboration of the sexual abuse existed in hospital records from 17 years earlier. In William's study, 12 percent of the subjects with such records reported that they had never been sexually abused as a child. Of those that recalled the abuse, a number (16 percent of the total sample) reported that at some time in the past they had forgotten about the abuse.

136 Scheflin and Brown recently reviewed the psychological literature on forgetting childhood sexual abuse. They found 25 relevant

studies. According to the authors the earlier studies had methodological problems, but, later studies employed a variety of increasingly sophisticated designs to overcome such problems. Many of these studies have been criticised because they relied on retrospective self-reported data. However, a number of these studies do demonstrate that some people fail to recall documented abuse and that some of those who report such abuse also report having had periods when they did not remember it. Scheflin and Brown concluded that the rates of full or partial forgetting of childhood sexual abuse were reasonably consistent across the studies (28–42 percent) with two exceptions. The rates from clinical studies and random surveys were similar.[18]

137 Delayed recall of memories for other types of trauma has been less systematically studied. Recent studies clearly indicate that partial or complete loss of memory is not limited to sexual abuse but exists across a variety of traumas (studies cited by Elliott, 1987:812). Elliott surveyed a random sample of individuals in the general population about self-reported memory loss and subsequent recall of traumatic events. The data confirmed the suggestion that delayed recall occurs across a variety of traumas, and that it is especially high for those events involving interpersonal victimisation (818).

AMNESIA FOR TRAUMATIC EVENTS

138 Amnesia for traumatic or stressful events is a recognised phenomenon. It may be diagnosed as dissociative amnesia, a term included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) published by the American Psychiatric Association.[19] Dissociative amnesia is "characterised by an inability to recall important personal information, *usually of a traumatic or stressful nature*, that is too extensive to be explained by ordinary forgetfulness".[20] It may occur in post-traumatic stress disorder (PTSD), acute stress disorder and dissociative disorders, or be observed as a phenomenon of its own. Baddeley, in his text *Human Memory: Theory and Practice*, states that

---

[18] Scheflin and Brown's conclusion that the memory loss was due to dissociative amnesia has been criticised (See Pope, Hudson, Bodkin and Oliva, 1998). Causes of memory loss for traumatic events are discussed at paras 140–148.

[19] American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (4th Ed, APA, Washington, 1994). The Manual is a standard research tool.

[20] Above n 18, 447, emphasis added.

there is no doubt that powerful negative emotions can induce amnesia, although the extent to which the patient is totally unable to access the stressful memories, and to what extent he or she "chooses" not to, is very hard to ascertain. (274)

139 Aberrations in memory are a significant feature of traumatic disorders, including PTSD. Symptoms of PTSD include amnesia, excessive remembering in the form of flashbacks and inability to forget, and other memory disturbances. Like other symptoms of PTSD, memory disturbances may be apparent immediately following the traumatic event or after long periods of apparent adjustment. Epidemiological[21] and clinical studies have documented a high prevalence of post-traumatic symptoms among sexually abused children and adult survivors of abuse, as well as non-sexually abused children (Kendall-Tackett, 1993). It is not however a universal or characteristic pattern and with many children and adults there may be no symptoms at all.

CAUSES OF MEMORY LOSS FOR TRAUMATIC EVENTS

140 The primary cause of memory loss for traumatic events, especially over a long period of time, is ordinary forgetting. Some cognitive psychologists suggest that it is the only mechanism for the inability to recall a traumatic childhood memory (see Loftus, Garry and Feldman, 1994) and that there is no proof that any other process is involved. Other researchers suggest that such forgetting is not ordinary, and reflects the use of psychological mechanisms as coping strategies for the psychological stress associated with previous traumatic events (for example, see articles and studies by Williams). Several theoretical mechanisms in addition to repression are suggested as the cause of partial or full memory loss of traumatic events. It is possible that a variety of mechanisms, including those which operate for non-traumatic memory loss, may all operate to some degree in respect of traumatic memories.

141 There are a number of difficulties in attempting to demonstrate that something other than ordinary forgetting causes a loss of traumatic memories. Caution must always be exercised in using patients' retrospective reports as sources for conclusions about the actual prior state of their memories; the primary value of such reports is documenting the frequency with which patients believe that their memories were previously unavailable. There are also

[21] The term epidemiological refers to research that studies the prevalence of any disorder or disorders in a community.

ethical and practical limitations in setting up experimental research when part of a theory is that it is the traumatic nature of the event which causes the memory loss.

Repression

142 Authors and judges use general terms which may (or may not) be intended to include repression as the primary cause of memory loss eg, "repressed memory", "false memory syndrome", "repressed memory syndrome", "suppressed memory", "false negative memory". The term repression was originally coined by Freud; however, he used a range of definitions (for a comprehensive discussion see Erdleyi, 1990). The varying definitions have influenced conclusions about how often repression is thought to occur. Corballis, an experimental psychologist and professor at Auckland University, has written that the concept of repression implies that certain memories are rendered inaccessible by virtue of their traumatic or unpleasant nature (1995:40). In a review of experimental research on repression, Holmes decided to determine what the modern conventional usage of the term repression was. He found that it accorded with the general definition given by Corballis (1990:85–86).

143 In Holmes' view the concept of repression has three separate elements:

- the selective forgetting of information or events that cause the individual pain;
- the lack of voluntary control;
- the repressed information is not lost but instead is stored in the unconsciousness and can be returned to consciousness if the anxiety that is associated with the memory is removed.

Confusion may be caused because some theorists include within this definition mechanisms such as suppression or denial which involve *voluntary* or deliberate forgetting of the information or event.

144 Loftus (1993) has written that numerous clinical examples fitting the repression/recovery model can be found in psychological literature. For example, Schuker (1979) described a woman who entered psychotherapy for chronic insomnia, low self-esteem, and other problems and recovered memories of her father sexually assaulting her. However, Loftus also points out that to some psychologists such clinical accounts remain unconvincing in terms of proving the existence of repression. While in those cases the

memory may have been forgotten and then later suddenly remembered, and they may be reliable memories, they do not of themselves validate the repression theory.

145 In a review of 60 years of controlled experimental research Holmes (1990) concluded that there was no support for the concept of repression. In order to demonstrate experimentally that repression has caused memory loss (and then later recovery), an experiment has to show that the forgetting of the traumatic event was not caused by ordinary forgetting. It may be impossible to demonstrate repression of traumatic events experimentally because of ethical and practical limitations of such research on trauma and memory. It is also difficult to find researchable real-life opportunities for investigating recovered memories of childhood sexual abuse. Childhood sexual abuse is often secretive, private, often repetitive, and frequently occurs in the hands of a caregiver with whom the child is likely to need to maintain an attachment. The child is alone in dealing with consequences of abuse and forced to carry on an otherwise "normal" relationship with the perpetrator.

146 Pope and Hudson (1995) reviewed four clinical studies in an attempt to determine whether there was evidence for the existence of repression. According to their review, a study had to meet two requirements in order to reject the hypothesis that repression does not occur: (1) confirm that the traumatic abuse actually occurred (2) demonstrate that the individuals actually developed amnesia of non-biological origin, after the age of five (to eliminate childhood amnesia as a cause, see paras 155–156). The studies had a number of methodological weaknesses and Pope and Hudson concluded that the evidence was insufficient to permit the conclusion that individuals can "repress" memories of childhood sexual abuse. Others have argued that their conclusion is based on a false premise that the absence of proof is equivalent to the proof of absence. A more recent review by Pope, Hudson, Bodkin and Oliva (1998) also concludes that prospective studies fail to demonstrate that individuals can develop dissociative amnesia for traumatic events (but see the comments of Brewin, 1998).

147 Ceci, Huffman, Smith and Loftus state that most instances of forgetting of early childhood sexual abuse are due to ordinary forgetting, or childhood amnesia (see paras 155–156), or the way the respondent interpreted the question. The most prudent reading of the psychological literature is that repression of memories of sexual abuse may occur, but not as frequently as indicated in the four studies reviewed by Pope and Hudson (Ceci, Huffman, Smith and Loftus, 1996:241). According to Corballis it remains

conceivable, if unproven, that repression is a subtle and perhaps rare phenomenon and that it might apply to some kinds of events such as sexual abuse more readily than it applies to others (1995:40). Baddeley, in *Human Memory: Theory and Practice* (1997) concludes that it seems unlikely that repression is one of the major causes of everyday forgetting (280–281).

Dissociation

148 Dissociation refers to the theoretical process where event memory has been compartmentalised (dissociated) so that certain events are recalled only when the individual is in a particular state of mind. The individual's state of mind determines the nature of the retrieval cues that are formed, and hence influences the success or failure of a retrieval attempt. In extreme instances, this condition may be called dissociative identity disorder (also known as multiple personality disorder), in which different "personalities" are amnesic to each other's experiences. The definition of dissociation is not settled however. While dissociative disorders are a recognised clinical phenomenon, included in the DSM IV, Spanos (1994) argues that there is evidence that dissociation, multiple personality disorder and the like are culturally-driven and socially constructed suggestions.

RECALL OF CHILDHOOD TRAUMATIC EVENTS

Recall

149 It is a well-established phenomenon in laboratory studies of memory that not all memories (non-traumatic and traumatic) are accessible or available for recall under all conditions. A good deal of research has been dedicated to demonstrating the effectiveness of different kinds of cues and contexts on memory retrieval. While successful recall of memories can and does occur, there is no strong evidence to suggest that all memories are potentially available for recall or "recovery".

150 It is generally agreed that it is possible for some adults who experienced childhood sexual abuse to recall memories of abuse, after a period of forgetting, given the appropriate cues. There are documented cases of delayed recall or recovery of memories of abuse or other trauma which occur "spontaneously" ie, without clinical intervention. There are also cases where memories have not been recovered until a person is in therapy, sometimes initially for something unrelated to the sexual abuse.

151 A range of studies have reported a variety of cues for retrieving memories of childhood sexual abuse. The studies range from random surveys of general populations to studies of clients in therapy, sometimes specifically for sexual abuse. In many of those studies therapy was not typically reported as a trigger for recall of the memory of abuse. All of the studies have some methodological weaknesses. One of the most recent and more methodologically sound studies (Elliott, 1997) found in a random survey of the general population that the media acted as a cue in 54 percent of cases, a similar experience in 37 percent of cases, talking with a family member in 37 percent of cases, and psychotherapy in 14 percent of cases (the lowest percentage).

152 For some people forgetting and remembering occurs in cycles. Many women in Hewson's (1996) research interviews discovered that they had previously recalled an event when they told friends or family of their "newly" recovered memory. Others found details of "new" memories in diaries written during the years they thought they had not remembered.

153 Harvey and Herman (1996:29) identified three general patterns of recall from studies of their clients (sexual abuse survivors):

- relatively continuous and complete recall of childhood abuse experiences coupled with changing interpretations (delayed understanding);
- partial amnesia for abuse events, accompanied by a mixture of delayed recall and delayed understanding;
- delayed recall following a period of profound and pervasive amnesia.

These are empirical observations based on case studies. Herman and Harvey did not document the frequency of these recall patterns or document any corroboration of the memories.

154 According to Schooler, recovered memories of sexual abuse have parallels with veterans' delayed "reactivations" of memories of traumatic experiences:

- both correspond to troubling events for which the person would feel embarrassed or ashamed;
- the person may go for periods in which they do not discuss the trauma or show direct evidence of being troubled by it;
- in both a triggering event that shared some similarity to the alleged traumatic event produces an onrush of emotion associated with the traumatic event;

- after the triggering event, the individual begins discussing the traumatic experience (1996:287–289).

Childhood amnesia

155 Most research since the early 20th century has confirmed that adults rarely verbally recall events that occurred before the age of 3 or 4 due to the phenomenon of "childhood amnesia". Children can learn and remember from their earliest months of life but, because a person's autobiographical memory system is not fully functioning until the age of 2 or 3, or sometimes later, these memories remain beyond adult awareness and so cannot be expressed verbally. Even memories from the first 5 or 6 years are frequently quite spartan and rare. At present there is no empirical evidence that memories from birth up to the second year of life are ever accessible for later verbal recall. Be that as it may, even such inaccessible experiences (implicit memories) may still have implications for later behaviour and even psychopathology.

156 Recent debate has focussed on whether some memories are actually available from earlier in childhood, from between the ages of 2 and 3, contrary to what earlier research has suggested. Usher and Neisser (1993) found a younger age of recall of between 2 and 3 years old for events such as death of a family member and birth of a younger sibling, although the memories (corroborated by family members) were still sparse. However, aspects of the methodology of their study and their conclusions from their data are problematic (see eg, Loftus, 1993a; Eacott and Crawley, 1998). A more recent study by Eacott and Crawley (1998) has attempted to overcome these methodological problems, and replicate the results of Usher and Neisser's study with certain additional controls. The authors confirmed both that an event which occurs when a person is younger than 3 years old may be recalled in adulthood, and that there appears to be a steep onset of childhood amnesia for events occurring prior to the age of 2 and-a-half years old (32). Again, however, as the authors themselves acknowledge, aspects of their study can be criticised on methodological grounds. Further research is required before any firm conclusions about the precise age of earliest memories can be drawn.

Reliability

157 There is anecdotal evidence about the recovery of memories which have later been corroborated. Some cases have been published in the literature eg, Mack (1980) cited by Loftus (1993b). There is also anecdotal evidence that an important trauma can be

remembered incorrectly or forgotten. Current denials of those accused of sexual abuse are not proof that the allegations are false. Nor are recantations of allegations of sexual abuse proof that they are false. Individuals with abuse histories frequently vacillate between denying and accepting that the abuse occurred and often report intense attempts to convince themselves that the abuse did not happen, *preferring* to believe that it was all unreal. Individuals who are abused may be eager to accept a suggestion that their memories are false.

158 Williams' prospective study addressed the accuracy of adult memories of childhood events in general (see para 135). She found that recovered memories of childhood sexual abuse reported by adults can be quite consistent with contemporaneous documentation of the abuse. Further, such memories were no less accurate than the memories of other adults who had been sexually abused as children and who had always had a memory of the abuse. Dalenberg (1996), in a study of the accuracy of abuse memories specifically recovered in therapy, found that memories recovered in therapy were no more or less accurate than memories which the same individual had always remembered. Extensive corroborative evidence was collected by victims, alleged offenders and other family members. It is important to remember that all memories whether "recovered" or continuous (ie, they have always been remembered) may be fragile and subject to change over time.

Theories about the reliability of traumatic memories

159 Generally, it is agreed that memories for personal events are part of an individual's episodic memory and autobiographical memory system. Episodic memories are the most malleable according to memory theory (see para 20), subject to ordinary causes of deterioration and forgetting. Some suggest that memories for traumatic events are encoded differently, that the memory is encoded permanently in a person's mind available for later retrieval (eg Terr, 1996). However, research by Dalenberg indicates that there is no reason to believe at present that memories that have been unavailable for some time and then later recalled or "recovered", are more or less accurate than memories that have been available all along for the same period (Dalenberg 1997, 452).

Further research

160 The New Zealand Psychological Society report states that further research is required on the impact of the specific nature of traumatic

events, and events occurring subsequently, on the memory of the event (Corballis, Pile and McDougall 1997:315–316). It is likely that a number of variables have a significant influence on the clinical outcome following trauma and the memory of the traumatic experience. Such variables might include whether or not the traumatic event is life-threatening, the specific emotions following the experience, the coping strategies used by the individual during and after the event, the impact on family relationships, and whether the knowledge is public and is discussed or essentially private.

THE CREATION OF FALSE MEMORIES

Definitions of false memory

161 There is a continuum of definitions about what constitutes a false memory. Sometimes memories contain incorrect details but are thematically true. For example, one client in Dalenberg's study (1996) remembered her naked father shaking her when she was 16 and later recalled childhood sexual abuse. It was found that at age 12 she been shaken and threatened by her father when he was naked after walking in on him when he was having sex with a 16 year old. Conversely, some memories can be thematically false but contain true details, see eg, Loftus and Pickerell (1995).

162 The New Zealand Psychological Society report questions whether it is ever truly possible to create entirely false memories as it is likely that false memories must always relate to some aspect of the subject's real experience (Corballis, Pipe, and McDougall, 1997:309). The research suggests that adults tend to try and relate suggested information about false events to events they can remember or know about. Many experimental psychologists believe that false memories can be suggested precisely because they are tailored to the idiosyncratic truths of a client.

Distinguishing true and false memories

163 It is impossible to distinguish a true memory from a false one once it is in a person's autobiographical memory. It is dangerous to use indicators such as confidence, vividness and detail as indicating truth of the memory (see paras 71–75). While in some cases the content of a memory will indicate its veracity (eg, alien abduction), childhood sexual abuse does occur, as do some forms of "satanic ritual abuse". Just because a memory is false does not mean that a person is deliberately lying. The person may honestly believe in the truth of their memory.

The misinformation effect

164 Over the past 20 years a considerable body of experimental research has revealed that adults are vulnerable to suggestive and leading questions (see paras 61–62). Compared with control groups, adults presented with misinformation frequently show impaired memory for original events, a finding called the "eye witness suggestibility effect" or the "misinformation effect". It is pervasive and easy to induce. Although, it is also important to note that most of this research is based on laboratory experiments rather than real life events. They involve events witnessed by the subject rather than events experienced by the person directly or an action done to them, and the events are in themselves non-traumatic. Experimental research about the misinformation effect suggests that once the effect occurs, a subsequent attempt to uncover the original information (which may have been stored at the same time as the misinformation) will fail.

165 Adults are more prone to suggestion when there is:

- substantial delay between the event in question and the presentation of the misinformation;
- repetition of suggestions;
- a perceived plausibility of the suggestions;
- a perception that the source of the suggestions is authoritative.

However the misinformation effect does not occur under all conditions and the degree to which the misinformation effect occurs is highly variable. Salient and central events, for example, are known to be more resistant to suggestion than peripheral and less salient events, or aspects of an event. This is true for both adults and children. Further, not all people will be misled under these circumstances. With adults, for example, typically about 20 percent of experimental participants are misled (McClosky and Zaragoza, 1985; Loftus, 1975). See further chapters 3 and 4.

Implanting false memories

166 It is possible to implant a false memory of an entire event in someone's mind. The most famous anecdotal example is Piaget's childhood memory of an attempted kidnapping which years later his nanny confessed to having manufactured. False memories can be induced under hypnosis. Laurence and Perry selected 27 highly hypnotisable individuals and during hypnosis suggested to them that they had been awakened by loud noises on a night during the

previous week (Laurence and Perry, 1983, cited in Loftus, 1993b). Almost half of the subjects stated after hypnosis that the suggested events had taken place, and a number were certain about their memories. The basic findings of this study have been replicated in subsequent studies.

167 Experiments have demonstrated that it is possible to implant false memories of entire events by suggestion, although it may be difficult to accomplish (Geddis, 1995; Pezdek and Roe, 1996). The type of false memories which have been implanted in the minds of adults and children include a birthday party at age 5, attending a wedding at age 6, getting lost in a shopping mall at age 5, hurting a finger in a mouse trap, and being touched inappropriately by a paediatrician. Each of these false memories involved reasonably complex and detailed events. The results of some studies also suggest that individual differences may be relevant to whether or not a particular person is more susceptible to accepting that certain events suggested to them actually occurred (Loftus, 1997a: S82–S83).

168 Suggestively planted memories are more likely to be successful for familiar events that are consistent with a person's life experiences. Hyman, Husband and Billings found that a match between background knowledge and the false event was crucial for the creation of false recalls (1995:195). Pezdek had a zero percent success rate in attempting to implant a memory of receiving a rectal enema but some subjects falsely "remembered" being lost in a shopping mall 10 years ago (as described by Pope, 1996:963). While a rectal enema is a more traumatic event (and therefore one might be tempted to conclude that it is difficult to implant a false memory of a traumatic event), it is an unfamiliar event of which a person is unlikely to have knowledge or experience and therefore will be unable to imagine such a scenario. On the other hand, adults do have "script knowledge" of (and so can imagine) sexual activity. Loftus also suggests that false memory creation is most likely if there are social demands to remember, memory reconstructions are encouraged, and "reality monitoring" is discouraged (1997a:S84).

Implanting entirely false memories of traumatic events

169 There are anecdotal examples indicating that individuals are capable of "remembering" traumatic events that never happened to them. For example, young school pupils who did not witness a violent sniper shooting in their school playground had memories

of the experience apparently created by exposure to the stories of those who experienced the trauma (Pynoos and Nader, 1989, cited by Loftus, 1993b).

170 Loftus also cites an anecdotal example of a memory of sexual abuse (as perpetrator) being successfully implanted in the mind of an alleged abuser. Paul Ingram was accused of extensive sexual abuse involving his own children and eventually confessed. There were some doubts about the techniques used by detectives and psychologists who interviewed Ingram over several months. A psychologist, Ofshe, attempted to implant a purely false memory of Ingram forcing his children to have sex in front of him. According to Loftus, Ofshe's methods (including protracted imagining of events and an authority figure establishing the authenticity of those events) were successful in that Ingram eventually developed detailed memories and wrote a three page statement confessing in detail to the scene that Ofshe had invented. However, Gleaves (1994) describes Loftus' conclusion as highly questionable. First, there were some significant factual inaccuracies in Loftus' description of the sequence of events, including the timing of Ingram's confessions. Second, according to Gleaves, the experiment conducted by Ofshe only proved that the children had not reported the event supposedly suggested by Ofshe.

Further research

171 The New Zealand Psychological Society report states that further research is needed to establish the conditions under which accurate versus false or distorted memories of childhood events are most likely to occur, and in particular, whether each relates to special procedures used in therapy (Corballis, Pipe, and McDougall, 1997:316).

SOURCES OF FALSE MEMORIES

172 There are a range of possible external and internal sources for false memories. Therapy has been suggested as a primary source of false memories of sexual abuse in clients. However, memories for childhood sexual abuse (whether false or true) are recalled in a range of situations, least commonly in the course of therapy (see para 151). More research is required on the possible influence of other factors in creating false memories of sexual abuse, including sources such as the media, the client's own beliefs in repressed memories, and family dynamics (see para 184).

Therapy

Goals of therapy

173 The purpose of therapy is to set goals with the client for change and to systematically work to achieve those goals within a context of reflection, discussion, negotiation, development of insight and encouragement to try out new strategies for thought and behaviour. Gaining an understanding of the client's current problems is the goal, with an acknowledgement that the client's narratives often approximate the historical truth rather than reflecting it exactly.

174 It may be argued that the nature of the therapeutic relationship precludes the necessity and appropriateness of determining the historical truth of a client's accounts. The therapist's role is to be compassionate, empathetic and supportive of the client's situation, not to interrogate the client as to the verifiability of the statements and allegations they are making. However, therapists are ethically obliged to discuss with their clients the limitations of recalled information. Good practice for therapists working in this area is outlined by Corballis, Pipe and McDougall, 1997.

Therapists' beliefs about repression and recovered memory

175 According to surveys conducted in the early 1990s in the USA, many therapists believed in the authenticity of the recovered memories of their clients. A survey by the British Psychological Society found that the majority of psychologists believed that recovered memories of sexual abuse were sometimes or usually "essentially accurate". Two thirds of those surveyed also thought that false memories were possible, and more than one in seven believed that their clients had experienced false memories.

176 An unpublished survey of clinical psychologists and psychotherapists in New Zealand, conducted at the end of 1996, found that 42 percent of clinical psychologists and 71 percent of psychotherapists surveyed believed that repressed or forgotten memories are often encountered in child sexual abuse cases (Pipe, Bottoms, Diviak and La Rooy, in preparation). Further, more than half of the New Zealand respondents had had experience of clients with repressed and recovered memories. In the majority of instances the clinicians and psychotherapists believed that the purportedly forgotten or repressed event had, indeed, occurred and that the memory really had been repressed or forgotten.

Therapeutic techniques

177 Most clinicians recognise that all techniques can produce either therapeutic benefit or damage depending on the particular client and the manner, context, and timing with which the techniques are used. The meaning and impact of an intervention or therapy is determined not solely by the technique itself but by the context of its use.

178 A number of therapeutic techniques have been categorised by experimental psychologists as memory recovery techniques, including:

- guided imagery – an imaginative reconstruction of events guided by the therapist, usually used in conjunction with relaxation;
- dream interpretation – for example, sifting through dreams for themes of sexual abuse;
- journalling – journal writing where clients are requested to work at recovering detailed memories of abuse by writing about them;
- working with physical symptoms that may be present based on the theory that the body signals what the mind may choose to forget;
- hypnosis – the most common technique for recovered memory work is age regression where the therapist encourages the client to move back in time, stopping at an age that seems significant, and then describing the scenes, images, feelings that come to mind;
- art therapy – it is theorised that, because severe trauma may reduce a client's ability to attach words to internal experiences due to brain changes that may occur, non-verbal forms of expression may assist the client to access feelings and information about the trauma;
- EMDR (eye-movement de-sensitisation and reprogramming) – a technique which reduces the discomfort associated with flashbacks and also may elicit memories of abuse and trauma.

While none of these techniques are taught in university clinical psychology courses as "memory recovery" techniques in New Zealand, it is possible that some psychologists may use these techniques for that purpose (although note the guidelines, para 180).

179 In 1994 Poole, Lindsay, Memon and Bull conducted two surveys of highly trained psychologists in the USA and England to examine

how frequently memory recovery techniques were being used. They concluded that if their sample was representative of clinicians on national registers in the United States and England, then "25 percent of the members of those organisations who conduct psychotherapy with adult female clients believe that recovering memories is an important part of therapy, think they can identify clients with hidden memories during the initial session, and use two or more techniques to help such clients recover suspected memories of CSA [childhood sexual abuse]". An additional concern is that when such techniques are used it is very difficult to distinguish between clients who are accurately remembering events and those who are not (Lindsay and Read, 1994:304). The unpublished survey referred to in para 176, indicates that such techniques are used much less frequently in New Zealand. Fewer than 5 percent of the New Zealand respondents indicated that they had used hypnosis or age regression in the past five years and more than half explicitly indicated that techniques should never be used for memory recovery.

180 The Poole et al surveys have been widely cited and criticism of the study is continuing (for a recent series of articles arising out of criticism by Pope see the September 1997 and June 1998 issues of American Psychologist: Poole, Lindsay, Memon and Bull, 1997; Poole and Lindsay, 1998). Lindsay has stated that there is no reason to doubt that such techniques can enable people to recover accurate but long-forgotten memories of childhood traumas, but that unfortunately there are many reasons to believe (based on the experimental literature) that these same techniques may also enable non-abused clients to develop compelling false memories about childhood sexual abuse (1996:267). While "there is far too little data to make firm statements about the prevalence of 'risky' memory work" (Lindsay, personal communication cited by Olio, 1996:288) clinical psychologists have responded to these concerns by reviewing and formulating new guidelines for clinicians regarding the conduct of certain types of therapy.

Guidelines for clinicians

181 In 1995, a year when there was much publicity about "repressed" and "recovered" memory cases, the New Zealand Psychological Society devoted an issue of the Society's journal *The Bulletin* to recovered memory, including an article on ethical practice and a copy of the Australian Psychological Society guidelines. Last year, a working party established by the New Zealand Psychological Society completed a report on memories of traumatic childhood

events (see Corballis, Pipe and McDougall, 1997). It includes guidelines for clinical practice where memory for traumatic childhood events is an issue, and makes recommendations to the New Zealand Psychological Society regarding education of the profession and the public on such issues.

182 Of the issues concerning the practitioner, the New Zealand report notes that it is especially important for practitioners to be aware that memory is a fragile, constructive process that need not provide accurate information about past events, especially if those events occurred a long time ago. The report recommends that "the active pursuit of memory should not be the goal of therapy" and that hypnosis not be used for memory recall since it is a "potential source of distortion and even of false memories" (Corballis et al, 1997:314).

183 In 1997 the British Royal College of Psychiatrists issued guidelines to practitioners warning them not to use certain memory recovery techniques such as dream interpretation, regression therapy and hypnosis (Royal College of Psychiatrists' Working Group on Reported Recovered Memories of Child Sexual Abuse). For various reasons the Working Group's report was published separately (see Brandon, Boakes, Glaser and Green, 1998). The American Psychological Association has also voiced similar cautions about therapeutic techniques focused on memory recovery.

Other possible sources of false memories

184 In an unpublished conference paper, Gow writes that apart from Spanos, *Multiple identities and false memories: A sociocognitive perspective* (American Psychological Association, Washington, 1996), no directed research has been done to outline the role that external social factors might play in the creation of false memories, particularly of childhood sexual abuse. These include the role played by the media, media personages, psychics, self healing books, therapy groups, and the beliefs held by the public and self help groups about the recovery of memories and the accuracy of those memories. (Gow, 1997)

Further research

185 The New Zealand Psychological Society report suggests that a number of questions concerning clinical issues relating to memory might usefully be addressed to inform clinical practice:

- interview techniques which can be used to explore the possibility of trauma, including abuse, without increasing the

risk of suggestion or of compromising the client's subsequent reports;

- the relation between the memorability of an experience over time and symptomatology;
- memory recovery and therapeutic outcome;
- the prevalence of false memories, and conditions (such as family dynamics) under which false memories and reports of abuse are most likely to arise (Corballis, Pipe and McDougall, 1997:316).

"FALSE MEMORY SYNDROME"

Definition and validity

186 False memory syndrome (FMS) is a lay term coined by the American FMS Foundation. FMS has been defined as

> a condition in which a person's identity and interpersonal relationships revolve around a traumatic memory (almost always of sexual abuse) which is objectively false but in which the person strongly believes. False memory syndrome is especially destructive because the person assiduously avoids confrontation with any evidence that might challenge the memory. Thus, it takes on a life of its own, encapsulated, and resistant to correction (Kihlstrom, 1996, cited by Pope, 1996:959).

Some clinicians suggest that people who recover memories which appear to be incorrect may in fact suffer from a personality disorder. A personality disorder according to the DSM-IV is "an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment". According to the American FMS Foundation, counsellors and therapists use recovered memory techniques to elicit a history of childhood sexual abuse in their clients who have no actual history of abuse. Those clients then uncritically accept and come to believe in their illusory memories.

187 According to a number of psychologists, the term FMS was coined by the American FMS Foundation as part of an effort to undermine the credibility of complainants and to discredit therapists. Seventeen memory researchers co-authored a statement objecting to the term "false memory syndrome" as "a non-psychological term originated by a private foundation whose stated purpose is to support accused parents" (Pope, 1996:959). The idea of a false memory syndrome is not endorsed by any professional organisation (Seymour, 1995:29), nor is it included in the DSM-IV. Despite the

fact that FMS is a lay concept, some commentators continue to use the term because it is a familiar one, even though they do not accept that it is a true psychological syndrome.

188 A field study by Hovdestad and Kristiansen (1996) examined whether false memory syndrome is a valid construct. Hovdestad and Kristiansen tested a community sample of women self-identified as survivors of "girlhood sexual abuse" for the cluster of symptoms said to be associated with FMS. The study indicated that participants who had recovered memories of their abuse (which was a necessary requirement for FMS), generally did not differ from participants with continuous memories on indicators for FMS. The cluster of symptoms said to be associated with FMS also typically failed to converge. Discussing their findings, the authors state that to the extent that the sample is representative of the population of women who might have FMS, the study reveals little evidence for the conceptualisation of FMS as articulated by FMS advocates.

189 Recently, members of the British False Memory Society (BFMS) were surveyed on a number of matters including the accusations, characteristics of the accusing person, whether the memories were forgotten and then later "recovered", the accusing person's involvement in therapy at the time of making the accusations, and the consequences of the allegations (Gudjonsson, 1997). A similar New Zealand survey has been conducted on a self-selected sample of families where one family member had accused another of child sexual abuse; the survey participant claiming the accusation to be both false and based on a recovered memory (Goodyear-Smith, Laidlaw and Large, 1997; Goodyear-Smith, Laidlaw and Large, 1998).

190 Such surveys have been criticised as suffering from several methodological weaknesses, particularly regarding the nature and prevalence of memories "recovered" in therapy. Andrews states that the preliminary findings of another study (Andrews, 1996) suggest that, in contrast to the BFMS survey results, only a minority of clients challenge family members, or break off contact (1997:20). Further, not all accusers allege recovered memories. In other words, the British survey may be unrepresentative of those individuals claiming recovered memories (1997:22). The information in the New Zealand survey was supplied by those accused of abuse or their supporters in the family. Information about the accuser and whether the accusation was in fact based on a recovered memory, were not verified.

191 The American FMS Foundation states that tens of thousands of families are affected by false memory syndrome, however, there has been no independent or internal audit of records of the Foundation. The only independent audit of the BFMS found that only one quarter of their cases explicitly distinguish memories recovered from total amnesia (see "Recovered Memories: The Report of the Working Party of the British Psychological Society", 1996).

192 Hovdestad and Kristiansen concluded in their study that at most 3.9 percent of the women in their study with recovered memories could have been diagnosed with FMS, with an absolute upper limit of 13.6 percent (the rate equivalent to that among women with continuous memories). Even these estimates were liberal according to the authors.

CONCLUSION

193 HUMAN MEMORY IS FRAGILE and subject to change. It is not comparable to a tape-recording that may be played back without error. It is important for the fact-finder (the judge or jury) to be aware of these limitations when evaluating the testimony of a witness. An understanding of the processes involved in memory prevents the fact finder from placing too much confidence in evidence that may not warrant it. Conversely, it will also prevent the fact-finder from under-valuing testimony that does not live up to unrealistic expectations set by the "tape recorder" paradigm.

194 Credible identification evidence is of particular importance to the criminal justice system. Research indicates that incorrect identifications are a major factor in miscarriages of justice. In its draft Evidence Code, the Law Commission has drawn upon the research discussed in this paper to develop a regime that will help to exclude unreliable identification evidence. In proceedings where the case against the defendant depends wholly or substantially on identification evidence, the judge will continue to warn the jury of the special need for caution before convicting on the basis of such evidence. Such procedural safeguards, and the use of expert witnesses where their evidence can provide substantial help to the jury, should help to ensure that identification evidence is both reliable and properly evaluated.

195 The evidence of children often poses difficulties for the fact-finder. Historically, children have been seen as unreliable witnesses. Research discussed in this paper does not bear out that assessment. Consequently, the draft Evidence Code would re-enact the existing legislative stipulation that a judge must not instruct a jury that children *generally* have tendencies to invention or distortion and that their evidence must be scrutinised with special caution. The judge may, however, comment upon any expert evidence which bears on the subject.

196 Typically, a very young child will not provide much information in free recall, while the process of drawing out further information may influence what the child says, particularly as young children are more open to suggestion than adults. Psychologists have started to examine non-suggestive ways of encouraging young children to

relate their memories. This research should inform the procedures for managing child witnesses both prior to and during the trial. It is recognised that the common method of giving evidence in an adversarial courtroom does not help young children to give the most complete and accurate account of past events of which they are capable. The draft Evidence Code provides alternative ways for children to give evidence which are intended to be less stressful on the child and to increase the amount of accurate information available to the court. The Code also provides a direction concerning the evidence of children under the age of 6 which the judge may give if he or she is of the opinion that the jury would be assisted by such guidance.

197 Evidence based on recovered memories of sexual abuse has been a controversial issue in recent years. The research surveyed suggests that sexual abuse and other traumatic events may be forgotten and then remembered again. The research also shows that false memories may be created by suggestion. Unfortunately, it is not possible to clearly distinguish between false and true memories on the basis of such characteristics as vividness of recall or confidence in the memory.

198 There is no evidence that recovered memories are any more or any less reliable than apparently continuous memories, other things being equal. However, the issue has only been examined in two studies to date. The draft Evidence Code does not specifically address the issue of evidence based on recovered memories. The Law Commission considers that such evidence is best dealt with on a case by case basis, with the assistance of expert evidence where such evidence is likely to substantially assist the fact finder.

Bibliography

EYEWITNESS IDENTIFICATION

Texts

Brandon and Davies, *Wrongful Imprisonment: Mistaken Convictions and their Consequences* (George Allen & Unwin, London, 1973)

Bruce, *Recognising Faces* (Lawrence Erlbaum, Hove UK, 1988)

Cutler and Penrod, *Mistaken Identification: The Eyewitness, Psychology and the Law* (Cambridge University Press, New York, 1995)

Davies, Ellis and Shepherd (eds), *Perceiving and Remembering Faces* (Academic Press, London, 1981)

Gudjonsson, *The Psychology of Interrogations, Confessions and Testimony* (John Wiley and Sons, Chichester, 1992)

Kapardis, *Psychology and the Law* (Cambridge University Press, New York, 1997)

Lloyd-Bostock and Clifford, *Evaluating Witness Evidence* (John Wiley and Sons Ltd, New York, 1983)

Loftus, *Eyewitness Testimony* (Harvard University Press, Cambridge, 1979/ 1996)

Loftus and Doyle, *Eyewitness Testimony* (2nd ed, Michie Co, Charlottesville, 1992)

Parker and Thomas, *Legal Psychology: Eyewitness Testimony: Jury Behaviour* (Thomas, Springfield, 1980)

Ross, Read and Toglia (eds), *Adult Eyewitness Testimony: Current Trends and Developments* (Cambridge University Press, New York, 1994)

Shepherd, Ellis and Davies, *Identification Evidence: A Psychological Evaluation* (Aberdeen University Press, Aberdeen, 1982)

Wells and Loftus (eds), *Eyewitness Testimony: Psychological Perspectives* (Cambridge University Press, Cambridge, 1984)

Wrightsman, Willis and Kassin (eds), *On the Witness Stand: Controversies in the Courtroom* (Sage Publications, California, 1987)

Articles

Bird, "The influence of the press upon the accuracy of report" (1927) Journal of Abnormal and Social Psychology 123

Bornstein, Liebel and Scarberry, "Repeated testing in eyewitness memory: a means to improve recall of a negative emotional event" (1998) Applied Cognitive Psychology 119

Bowers and Bekerian, "When will postevent information distort eyewitness testimony?" (1984) 69 Journal of Applied Psychology 466

Brigham and Barkowitz, " Do they all look alike? The effect of race, sex, experience, and attitudes on the ability to recognize faces" (1978) Journal of Applied Social Psychology 306

Brimacombe (née Luus), Quinton, Nance and Garrioch, "Is age irrelevant? Perceptions of young and old adult eyewitnesses" (1997) 21 Law and Human Behavior 619

Brown, Deffenbacher and Sturgill, "Memory for faces and the circumstances of encounter" (1977) 62 Journal of Applied Psychology 311

Buckhout, "Eyewitness testimony" (1974) 231 Scientific American 23

Christianson, "Emotional stress and eyewitness memory: a critical review" (1992) 112 Bulletin of the Psychonomic Society 284

Clifford and Scott, "Individual and situational factors in eyewitness testimony" (1978) 63 Journal of Applied Psychology 352

Coxon and Valentine, "The effects of the age of eyewitnesses on the accuracy and suggestibility of their testimony" (1997) 11 Applied Cognitive Psychology 415

Cutler, Berman, Penrod and Fisher, "Conceptual, practical, and empirical issues associated with eyewitness identification test media" in Ross et al (eds), 1994

Cutler, Dexter and Penrod, "Expert testimony and jury decision making: an empirical analysis" (1989) 7 Behavioral Sciences and the Law 215

Cutler, Fisher and Chicvara, "Eyewitness identification from live versus videotaped lineups" (1989) 2 Forensic Reports 93

Cutler, Penrod and Dexter "Juror sensitivity to eyewitness identification evidence" (1990) 14 Law and Human Behavior 185

Cutler, Penrod and Martens, "The reliability of eyewitness identification: the role of system and estimator variables" (1987) 11 Law and Human Behavior 223

Cutler, Penrod and Stuve, "Juror decision making in eyewitness identification cases" (1988) 12 Law and Human Behavior 41

Davies, Ellis and Shepherd, "Face recognition accuracy as a function of mode of representation" (1978) 63 Journal of Applied Psychology 180

Davies, Shepherd and Ellis, "Effects of interpolated mugshot exposure on accuracy of eyewitness identification" (1979) 64 Journal of Applied Psychology 232

Deffenbacher, "A maturing research on the behaviour of eyewitnesses" (1991) 4 Applied Cognitive Psychology 377

Deffenbacher, "Eyewitness accuracy and confidence: can we infer anything about their relationship?" (1980) 4 Law and Human Behavior 243

Egan, Pittner and Goldstein, "Eyewitness identification: photograph vs live models" (1977) 1 Law and Human Behavior 199

Ellis, Shepherd and Davies, "An investigation of the use of the photo-fit techniques of recalling faces" (1975) 66 British Journal of Psychology 29

Fisher, McCauley and Geiselman, "Improving eyewitness testimony with the cognitive interview" in Ross et al (eds), 1994

Garry, Brown and DuBreuil "Womb with a view" in Payne and Conrad (eds) *Intersections in Basic and Applied Memory Research* (Lawrence Erlbaum Associates, New Jersey, 1997)

Goodman, Golding, Helgeson, Haith and Michelli, "When a child takes the stand: jurors' perceptions of children's eyewitness testimony" (1987) 11 Law and Human Behavior 27

Gonzalez, Ellsworth and Pembroke, "Response biases in lineups and showups" (1993) 64 Journal of Personality and Social Psychology 525

Gorenstein and Ellsworth, "Effect of choosing an incorrect photograph on a later identification by an eyewitness" (1980) 65 Journal of Applied Psychology 616

Greene, "Judge's instruction on eyewitness testimony: evaluation and revision" (1988) 18 Journal of Applied Social Psychology 252

Gross and Hayne, "Eyewitness identifications by 5 to 6 year old children" (1996) 20 Law and Human Behavior 359

Hall, Loftus and Tousignant, "Postevent information and changes in recollection for natural events" in Wells and Loftus (eds), 1984

Hastie, Landsman and Loftus, "Eyewitness testimony: the dangers of guessing" (1978) 19 Jurimetrics Journal 1

Hernández-Fernaud and Alonso-Quecuty, "The cognitive interview and lie detection: a new magnifying glass for Sherlock Holmes?" (1997) 11 Applied Cognitive Psychology 55

Holdenson, "The admission of expert evidence of opinion as to the potential unreliability of evidence of visual identification" (1988) 16 Melbourne University LR 521

Hosch, Marchioni, Leippe and Cooper, "Victimization, self-monitoring, and eyewitness identification" (1984) 69 Journal of Applied Psychology 280

Johnson, Hastroudi and Lindsay "Source monitoring" (1993) 114 Psychological Bulletin 3

Katzev and Wishart, "The impact of judicial commentary concerning eyewitness identifications on jury decision making" (1985) 76 The Journal of Criminal Law and Criminology 733

Kirsch and Lynn, "Dissociation theories of hypnosis" (1998) 123 Psychological Bulletin 100

Lane, "Eyewitness identification: should psychologists be permitted to address the jury?" (1984) 75 The Journal of Criminal Law and Criminology 1321

Laughery, Alexander and Lane, "Recognition of human faces: effects of target exposure time, target position, pose position, and type of photograph" (1971) 55 Journal of Applied Psychology 477

Laughery and Fowler, "Sketch artist and identi-kit procedures for recalling faces" (1980) 65 Journal of Applied Psychology 307

Levane and Tapp, "The psychology of criminal identification: the gap from *Wade* to *Kirby*" (1973) 121 University of Pennsylvania LR 1079

Lezak, "Some psychological limitations on witness reliability" (1973) 20 Wayne LR 117

Lindholm, Christianson and Karlsson, "Police officers and civilians as witnesses: intergroup biases and memory performance" (1997) Applied Cognitive Psychology 431

Lindsay, Lea, Nosworthy, Fulford, Hector, LeVan and Seabrook, "Biased lineups: sequential presentation reduces the problem" (1991) 76 Journal of Applied Psychology 796

Lindsay, Lea and Fulford, "Sequential lineup presentation: technique matters" (1991) 76 Journal of Applied Psychology 741

Lindsay et al, "Simultaneous lineups, sequential lineups, and showups: eyewitness identification decisions of adults and children" (1997) 21 Law and Human Behavior 391

Lindsay and Wells, "What price justice? Exploring the relationship of lineup fairness to identification accuracy" (1980) 4 Law and Human Behavior 303

Lindsay and Wells, "Improving eyewitness identifications from lineups: simultaneous versus sequential lineup presentation" (1985) 70 Journal of Applied Psychology 556

Lindsay, Wells and O'Connor, "Mock-juror belief of accurate and inaccurate eyewitnesses: a replication and extension" (1989) 13 Law and Human Behavior 333

Lindsay, Wells and Rumpel, "Can people detect eyewitness-identification accuracy within and across situations?" (1981) 66 Journal of Applied Psychology 79

Loftus, "Reconstructing memory: the incredible eyewitness" (1974) 8 Psychology Today 116

Loftus, "Leading questions and the eyewitness report" (1975) 7 Cognitive Psychology 560

Loftus, "Impact of expert psychological testimony on the unreliability of eyewitness identification" (1980) 65 Journal of Applied Psychology 9

Luus and Wells, "Eyewitness identification and the selection of distracters for lineups" (1991) 15 Law and Human Behavior 43

Luus and Wells, "Eyewitness identification confidence" in Ross et al (eds), 1994

Maass and Kohnken, "Eyewitness identification: simulating the 'weapon effect'" (1989) 13 Law and Human Behavior 397

MacLeod, Frowley and Shepherd, "Whole body information: its relevance to eyewitnesses" in Ross et al (eds), 1994

Malpass, "Effective size and defendant bias in eyewitness identification lineups" (1981) 5 Law and Human Behavior 299

Malpass and Devine, "Guided memory in eyewitness identification" (1981a) 66 Journal of Applied Psychology 343

Malpass and Devine, "Eyewitness identification: lineup instructions and the absence of the offender" (1981b) 66 Journal of Applied Psychology 483

Maulding and Laughery, "Composite production effects on subsequent facial recognition" (1981) 66 Journal of Applied Psychology 351

McAllister and Bregman, "Juror underutilization of eyewitness nonidentifications: a test of the disconfirmed expectancy explanation" (1989) 19 Journal of Applied Social Psychology 20

McConkey, "Hypnosis, memory and the ethics of uncertainty" (1995) 30 Australian Psychologist 1

Navon, "Selection of lineup foils by similarity to the suspect is likely to misfire" (1992) 16 Law and Human Behavior 575

Nolan and Markham, "The accuracy-confidence relationship in an eyewitness task: anxiety as a modifier" (1998) 12 Applied Cognitive Psychology 43

Noon and Hollin, "Lay knowledge of eyewitness behaviour: a British survey" (1987) 1 Applied Cognitive Psychology 143

O'Rourke, Penrod, Cutler and Stuve, "The external validity of eyewitness identification research: generalizing across subject populations" (1989) 13 Law and Human Behavior 385

Parker and Carranza, "Eyewitness testimony of children in target-present and target-absent lineups" (1989) 13 Law and Human Behavior 133

Parker and Ryan, "An attempt to reduce guessing behaviour in children's and adults' eyewitness identifications" (1993) 17 Law and Human Behavior 11

Pigott and Brigham, "Relationship between accuracy of prior description and facial recognition" (1985) Journal of Applied Psychology 547

Podd, "The effects of memory load and delay on facial recognition" (1990) 4 Applied Cognitive Psychology 47

Rahaim and Brodsky, "Empirical evidence versus common sense: juror and lawyer knowledge of eyewitness accuracy" (1982) 7 Law & Psychology Review 1

Rattner, "Convicted but innocent" (1988) 12 Law and Human Behavior 283

Re, "Eyewitness identification: why so many mistakes?" (1984) 58 Australian LJ 509

Read, "Understanding bystander misidentifications: the role of familiarity and contextual knowledge" in Ross et al (eds), 1994

Ross, Ceci, Dunning, and Toglia, "Unconscious transference and lineup identification: toward a memory blending approach" in Ross et al (eds), 1994

Saslove and Yarmey, "Long-term auditory memory: speaker identification" (1980) 65 Journal of Applied Psychology 111

Shepherd, Deregowski and Ellis, "A cross-cultural study of recognition memory for faces" (1974) 9 International Journal of Psychology 205

Shepherd and Ellis, "The effect of attractiveness on recognition memory for faces" (1973) 86 American Journal of Psychology 627

Steblay, "Social influence in eyewitness recall: a meta-analytic review of lineup instruction effects" (1997) 21 Law and Human Behavior 283

Thomson, "The realities of eyewitness identification" (1982) 14 Australian Journal of Forensic Sciences 150

Tollestrup, Turtle and Yuille, "Actual victims and witnesses to robbery and fraud: an archival analysis" in Ross et al (eds), 1994

Tulving and Thomson, "Encoding specificity and retrieval processes in episodic memory" (1973) 80 Psychological Review 352

van Koppen and Lochun, "Portraying perpetrators: the validity of offender descriptions by witnesses" (1997) 21 Law and Human Behavior 661

Weingardt, Toland and Loftus, "Reports of suggested memories: do people truly believe them?" in Ross et al (eds), 1994

Wells, "Verbal descriptions of faces from memory: are they diagnostic of identification accuracy?" (1985) 70 Journal of Applied Psychology 619

Wells and Bradfield, "Good, you identified the suspect: feedback to eyewitnesses distorts their reports of the witnessing experience" (1998) 83 Journal of Applied Psychology 360

Wells, Ferguson and Lindsay, "The tractability of eyewitness confidence and its implications for triers of fact" (1981) 66 Journal of Applied Psychology 688

Wells, Leippe and Ostrom, "Guidelines for empirically assessing the fairness of a lineup" (1979) 3 Law and Human Behavior 285

Wells, Lindsay and Ferguson, "Accuracy, confidence, and juror perceptions in eyewitness identification" (1979) 64 Journal of Applied Psychology 440

Wells, Lindsay and Tousignant, "Effects of expert psychological advice on human performance in judging the validity of eyewitness testimony" (1980) Law and Human Behavior 275

Wells and Ostrom, "Crime seriousness as a determinant of accuracy in eyewitness identification" (1978) 63 Journal of Applied Psychology 345

Wells, Seelau, Rydell, and Luus, "Recommendations for properly conducted lineup identification tasks" in Ross et al (eds), 1994

Woocher, "Did your eyes deceive you? Expert psychological testimony on the unreliability of eyewitness identification" (1977) 29 Stanford LR 969

Yarmey, Yarmey and Yarmey, "Accuracy of eyewitness identifications in showups and lineups" (1996) 20 Law and Human Behavior 459

Other papers

Brown, Seminar on Common Beliefs About Human Memory given at Victoria University of Wellington 25 September 1998

Shepherd and Deregowski, "Cross-cultural studies in cross-race recognition" (Unpublished Manuscript, University of Aberdeen)

CHILDREN'S MEMORIES

Texts and monographs

Brennan and Brennan, *Strange Language – Child Victims under Cross-examination* (2nd ed, Riverina Murray Institute of Higher Education, 1988)

Cashmore and Bussey, *The Evidence of Children* (Monograph Series No 11, Judicial Commission of New South Wales, Sydney, 1995)

Ceci and Bruck, *Jeopardy in the Courtroom: A Scientific Analysis of Children's Testimony* (American Psychological Association, Washington DC, 1995)

Ceci, Ross and Toglia (eds), *Perspectives on Children's Testimony* (Springer-Verlag, New York, 1989)

Davies and Drinkwater (eds), *The Child Witness: Do The Courts Abuse Children?* (British Psychological Society, Leicester, 1988)

Dent and Flin (eds), *Children as Witnesses* (John Wiley and Sons, Chichester, 1992)

Doris (ed), *The Suggestibility of Children's Recollections* (American Psychological Association, Washington DC, 1991)

Geddis, *The Child as a Witness in Allegations of Child Sexual Abuse* (a resource document prepared for the Commissioner of Children, part of a series of occasional papers, 1995)

Goodman and Bottoms (eds), *Child Victims, Child Witnesses: Understanding and Improving Testimony* (The Guilford Press, New York, 1993)

Goodman, Taub, Jones, England, Port, Rudy and Prado, *Testifying in Criminal Court: Emotional Effects on Child Sexual Assault Victims* (Monographs of the Society for Research in Child Development, 1992, 57 Serial No 229)

McGough, *Child Witnesses: Fragile Voices in the American Legal System* (Yale University Press, New Haven, 1994)

Spencer and Flin, *The Evidence of Children: The Law and the Psychology* (2nd ed, Blackstone Press, London, 1993)

Spencer, Nicholson, Flin and Bull, *Children's Evidence in Legal Proceedings: An International Perspective* (Cambridge University Law Faculty, Cambridge, 1989)

Zaragoza, Graham, Hall, Hirschman and Ben-Porath (eds), *Memory and Testimony in the Child Witness* (Sage Publications, California, 1995)

Articles

Aschermann, Dannenberg and Schulz, "Photographs as retrieval cues for children" (1998) 12 Applied Cognitive Psychology 55

Anderson "Assessing the reliability of child testimony in sexual abuse cases" (1996) 69 Southern California LR 2117

Bessner, "The competency of the child witness: a critical analysis of Bill C-15" (1989) 31 Criminal Law Quarterly 481

Bjorklund and Schneider, "The interaction of knowledge, aptitude and strategies in children's memory performance" (1996) 26 Advances in Child Development and Behaviour 59

Bruck, Ceci, Francoeur and Barr, "'I hardly cried when I got my shot!': influencing children's reports about a visit to their pediatrician" (1995) 66 Child Development 193

Bruck, Ceci and Hembrooke, "Reliability and credibility of young children's reports" (1998) 53 American Psychologist 136

Butler, Gross and Hayne, "The effect of drawing on memory performance in young children" (1995) 31 Developmental Psychology 597

Carter, Bottoms and Levine, "Linguistic and socioemotional influences on the accuracy of children's reports" (1996) 20 Law and Human Behavior 335

Cashmore and Bussey, "Judicial perceptions of child witness competence" (1996) 20 Law and Human Behavior 313

Ceci and Bruck, "Suggestibility of the child witness: an historical review and synthesis" (1993) 113 Psychological Bulletin 403

Chi, "Knowledge structures and memory development" in Siegler (ed) *Children's Thinking: What Develops?* (Lawrence Erlbaum, New Jersey, 1978)

Davies, "Assessing the evidence of children" (1996) 9 Practitioner's Child Law Bulletin 80

Davies, Henderson and Seymour, "In the interests of justice?: the cross-examination of child complainants of sexual abuse in criminal proceedings" (1997) 4 Psychiatry, Psychology and the Law 217

Davies and Seymour, "Questioning child complainants of sexual abuse: analysis of criminal court transcripts in New Zealand" (1998) 5 Psychiatry, Psychology and the Law 47

Endres, "The suggestibility of the child witness: the role of individual differences and their assessment" (1997) 1 The Journal of Credibility Assessment and Witness Psychology 44

Everson and Boat, "Anatomical dolls in child sexual abuse assessments: a call for forensically relevant research" (1997) 11 Applied Cognitive Psychology S55

Garven, Wood, Malpass and Shaw, "More than suggestion: the effect of interviewing techniques from the McMartin Preschool case" (1998) 83 Journal of Applied Psychology 247

Geddis, Taylor and Henaghan, "Child sexual abuse (I): incidence, epidemiology, cause, diagnosis and effects – a critique of the literature" [1990] New Zealand Law Journal 371

Gee, Gregory and Pipe "What colour is your pet dinosaur?": The impact of pre-interview training and question type on children's answers" Criminological and Legal Psychology (in press)

Goodman, "Children's testimony in historical perspective" (1984a) 40 Journal of Social Issues 9

Goodman, "The child witness: conclusions and future directions for research and legal practice" (1984b) 40 Journal of Social Issues 157

Goodman and Schaaf, "Over a decade of research on children's eyewitness testimony: what have we learned, where do we go from here?" (1997) 11 Applied Cognitive Psychology S5

Goodman and Schwartz-Kennedy, "Why knowing a child's age is not enough: influences of cognitive, social and educational factors on children's testimony" in Dent and Flin (eds), 1992

Golding, Sanchez and Sego, "The believability of hearsay testimony in a child sexual assault trial" (1997) 21 Law and Human Behavior 299

Gross and Hayne, "Eyewitness identifications by 5 to 6 year old children" (1996) 20 Law and Human Behavior 359

Gross and Hayne, "Drawing facilitates children's verbal reports of emotionally laden events" (1998) 4 Journal of Experimental Psychology: Applied 163

Gudjonsson, "Suggestibility and compliance among alleged false confessors and resisters in criminal trials" (1991) 31(2) Medicine, Science and the Law 147

Gudjonsson and Gunn, "The competence and reliability of a witness in a criminal court: a case report" (1982) 141 British Journal of Psychiatry 624

Hamblin and Levine, "The legal implications and emotional consequences of sexually abused children testifying as victim-witnesses" (1997) 21 Law and Psychology Review 139

Haugaard, Reppucci, Laird and Nauful, "Children's definitions of the truth and their competency as witnesses in legal proceedings" (1991) 15 Law and Human Behavior 253

Henaghan, Taylor and Geddis, "Child sexual abuse (III): child witnesses and the rules of evidence" [1990] New Zealand Law Journal 425

Kobasigawa, "Utilisation of retrieval cues by children in recall" (1974) 45 Child Development 127

Kobasigawa, "Retrieval strategies in the development of memory" in Kail and Hagen (eds) *Perspectives on the Development of Memory and Cognition* (Lawrence Erlbaum, New Jersey, 1997)

Loftus and Davies, "Distortions in the memory of children" (1984) 40 Journal of Social Issues 51

MacDonald and Hayne, "Child-initiated conversations about the past and memory performance by pre-schoolers" (1996) 11 Cognitive Development 421

Memon and Vartoukian, "The effects of repeated questioning on young children's eyewitness testimony" (1996) 87 British Journal of Psychology 403

Morton, "When can lying start?" in Davies and Drinkwater (eds), *The Child Witness – Do the Courts Abuse Children?* (British Psychological Society, Leicester, 1988)

Myers, "New era of scepticism regarding children's credibility" (1995) 1 Psychology, Public Policy and Law 387

Myers, "A decade of international legal reform regarding child abuse investigation and litigation: steps toward a child witness code" (1996) 28 Pacific Law Journal 169

Myers, Saywitz and Goodman, "Psychological research on children as witnesses: practical implications for forensic interviews and courtroom testimony" (1996) 28 Pacific Law Journal 3

Pezdek and Roe, "The suggestibility of children's memory for being touched: planting, erasing and changing memories" (1997) 21 Law and Human Behavior 95

Pipe, "Children's eyewitness memory" (1996) 25 New Zealand Journal of Psychology 36

Pipe and Wilson, "Cues and secrets: influences on children's event reports" (1994) 30 Developmental Psychology 515

Poole and Lindsay, "Interviewing pre-schoolers: effects of non-suggestive techniques, parental coaching and leading questions on reports of non-experienced events" (1995) 60 Journal of Experimental Child Psychology 129

Poole and White, "Two years later: effects of question repetition and retention interval on the eyewitness testimony of children and adults" (1993) 29 Developmental Psychology 844

Priestley and Pipe, "Using toys and models in interviews with young children" (1997) 11 Applied Cognitive Psychology 69

Rawls, "The veracity of young children's disclosures in relation to section 23G of the Evidence Amendment Act" New Zealand Law Foundation Research: Final Report 1996

Ricci, Beal and Dekle, "The effect of parent versus unfamiliar interviewers on children's eyewitness memory and identification accuracy" (1996) 20 Law and Human Behavior 483

Saywitz and Moan-Hardie, "Reducing the potential for distortion of childhood memories" (1994) 3 Consciousness and Cognition 408

Saywitz and Nathanson, "Children's testimony and their perceptions of stress in and out of the courtroom" (1993) 17 Child Abuse and Neglect 613

Schmidt and Brigham, "Jurors' perceptions of child victim-witnesses in a simulated sexual abuse trial" (1996) 20 Law and Human Behavior 581

Shrimpton, Oates and Hayes, "Children's memory of events: effects of stress, age, time delay and location of interview" (1998) 12 Applied Cognitive Psychology 133

Sutherland, Gross and Hayne, "Adult's understanding of young children's testimony" (1996) 81 Journal of Applied Psychology 777

Taylor, Geddis and Henaghan, "Child sexual abuse (II): obtaining accurate testimony from child victims" [1990] New Zealand Law Journal 388

Walker, "Questioning young children in court" (1993) 17 Law and Human Behavior 59

White, Leichtman, and Ceci, "The good, the bad, and the ugly: accuracy, inaccuracy, and elaboration in preschoolers' reports about a past event" (1997) 11 Applied Cognitive Psychology S37

"RECOVERED" MEMORIES

Texts

Baddeley, *Human Memory* (Allyn and Bacon, Boston, 1998)

Love and Whittaker (eds), *Practice Issues for Clinical and Applied Psychologists in New Zealand* (New Zealand Psychological Society, 1997)

Pezdek and Banks (eds), *The Recovered Memory/False Memory Debate* (Academic Press, San Diego, 1996)

Schacter (ed), *Memory Distortion: How Minds, Brains and Societies Reconstruct the Past* (Harvard University Press, London, 1995)

Articles

Alpert, "Professional practice, psychological science, and the recovered memory debate" in Pezdek and Banks (eds), 1996

Anderson, Martin, Mullen, Romans and Herbison, "Prevalence of child sexual abuse experiences in a community sample of women" (1993) 32 Journal of American Academy of Child & Adolescent Psychiatry 911

Andrews, "Can a survey of British false memory society members reliably inform the recovered memory debate?" (1997) 11 Applied Cognitive Psychology 19

Andrews, Morton, Bekerian, Brewin, Davies and Mollon, "The recovery of memories in clinical practice: experiences and beliefs of British Psychological Society practitioners" The Psychologist, May 1995, 209

Brandon, Boakes, Glaser and Green, "Recovered memories of childhood sexual abuse" (1998) 172 British Journal of Psychiatry 296

Brewin, "Commentary: questionable validity of 'dissociative amnesia' in trauma victims" (1998) 172 British Journal of Psychiatry 216

Briere and Conte, "Self-reported amnesia for abuse in adults molested as children" (1993) 6 Journal of Traumatic Stress 21

Broan, "On the construction of truth and falsity: whose memory, whose history" in Pezdek and Banks (eds), 1996

Broughton, "The memory debate in perspective – and some future directions" (1995) 2(1) Psychiatry, Psychology and Law 91

Cameron, "Comparing amnesic and nonamnesic survivors of childhood sexual abuse: a longitudinal study" in Pezdek and Banks (eds), 1996

Ceci, Huffman, Smith and Loftus, "Repeatedly thinking about a non-event: source misattributions among preschoolers" in Pezdek and Banks (eds), 1996

Christianson and Loftus, "Remembering emotional events: the fate of detailed information" (1991) 5 Cognition and Emotion 81

Corballis, "The repression and recovery of memory: a Freudian flip" *The Bulletin* (NZ Psychological Society) No 84, March 1995, 37

Corballis, Pipe and McDougall, "Memory of traumatic childhood events" in Love and Whittaker (eds), 1997

Dalenberg, "Accuracy, timing and circumstances of disclosure in therapy of recovered and continuous memories of abuse" (1996) 24 Journal of Psychiatry & Law 229

Dalenberg, "The predictions of accurate recollections of trauma" in Read and Lindsay (eds), *Recollections of Trauma* (Plenum Press, New York, 1997)

Danaan, "Justice meets Mnemosyne: the law and women's memories of child sexual assault" (1996) 7 Australian Feminist LJ 151

Eacott and Crawley, "The offset of childhood amnesia: memory for events that occurred before age 3" (1998) 127 Journal of Experimental Psychology: General 22

Elliott, "Traumatic events: prevalence and delayed recall in the general population" (1997) 65 Journal of Consulting and Clinical Psychology 811

Elliott and Briere, "Posttraumatic stress associated with delayed recall of sexual abuse: a general population study" (1995) 8 Journal of Traumatic Stress 629

Erdleyi, "Repression, reconstruction, and defense: history and integration of the psychoanalytic and experimental frameworks" in Singer (ed), *Repression and Dissociation* (University of Chicago Press, Chicago, 1990)

Freckelton, "Repressed memory syndrome: counterintuitive or counterproductive?" (1996) 20 Criminal LJ 7

Garry, Manning, Loftus and Sherman, "Imagination inflation: imagining a childhood event inflates confidence that it occurred" (1996) 3 Psychonomic Bulletin & Review 208

Geddis, "Recovered memory syndrome", a resource document prepared for the Commissioner of Children, part of a series of occasional papers, 1995

Gleaves, "On the reality of repressed memories" American Psychologist, May 1994, 440; includes comments following the article from other psychologists

Goodman, Quas, Batterman-Faunce, Riddlesburger and Kuhn, "Predictors of accurate and inaccurate memories of traumatic events experienced in childhood" in Pezdek and Banks (eds), 1996

Goodyear-Smith, "Review of 'Was Eve merely framed; or was she forsaken?'" [1995] NZLJ 230

Goodyear-Smith, Laidlaw and Large, "Surveying families accused of childhood sexual abuse: a comparison of British and New Zealand results" (1997) 11 Applied Cognitive Psychology 31

Goodyear-Smith, Laidlaw and Large, "Parents and other relatives accused of sexual abuse on the basis of recovered memories: a New Zealand family survey" (1998) 111 New Zealand Medical Journal 225

Gow, "The complexity of researching into 'false memory syndrome'" (delivered at the New Zealand Psychological Society conference 30 August–4 September 1997)

Gudjonsson, "Accusations by adults of childhood sexual abuse: a survey of the members of the British False Memory Society (BFMS)" (1997) 11 Applied Cognitive Psychology 3

Hampton, "Recovered memory syndrome v false memory syndrome or in repression and revenge, where resides justice?" [1995] NZLJ 154

Harvey and Herman, "Amnesia, partial amnesia, and delayed recall among adult survivors of childhood trauma" in Pezdek and Banks (eds), 1996

Hewson, "The false memory debate(s)" *The Bulletin* (NZ Psychological Society) No 90 December 1996, 31

Holmes, "The evidence for repression: an examination of sixty years of research" in Singer (ed) *Repression and Dissociation: Implications for Personality, Theory Psychopathology and Health* (University of Chicago Press, 1990)

Hovdestad and Kristiansen, "A field study of 'false memory syndrome': construct validity and incidence" (1996) 24 Journal of Psychiatry & Law 299

Howe, Courage and Peterson, "How can I remember when 'I' wasn't there: long-term retention of traumatic experiences and emergence of the cognitive self" in Pezdek and Banks (eds), 1996

Hyman, Husband and Billings "False memories of childhood experiences" (1995) 9 Applied Cognitive Psychology 181

Kendall-Tackett, Williams and Finkelhor, "Impact of sexual abuse on children: a review and synthesis of recent empirical studies" (1993) 113 Psychological Bulletin 164

Key, Warren and Ross, "Research note: perceptions of repressed memories: a reappraisal" (1996) 20 Law and Human Behavior 555

Kihlstrom, "The trauma-memory argument and recovered memory therapy" in Pezdek and Banks (eds), 1996

Krystal, Southwick and Charney, "Post traumatic stress disorder: psychobiological mechanisms of traumatic remembrance" 150 in Schacter (ed), 1995

Lindsay, "Contextualising and clarifying criticisms of memory work in psychotherapy" in Pezdek and Banks (eds), 1996

Lindsay and Read, "Psychotherapy and memories of childhood sexual abuse: a cognitive perspective" (1994) 8 Applied Cognitive Psychology 281

Loftus, "Leading questions and the eyewitness report" (1975) 7 Cognitive Psychology 560

Loftus, "Desperately seeking memories of the first few years of childhood: the reality of early memories" (1993a) 122 Journal of Experimental Psychology: General 274

Loftus, "The reality of repressed memories" (1993b) 48 American Psychologist 518

Loftus, "Creating childhood memories" (1997a) 11 Applied Cognitive Psychology S75

Loftus, "Repressed memory accusations: devastated families and devastated patients" (1997b) 11 Applied Cognitive Psychology 25

Loftus, Garry and Feldman, "Forgetting sexual trauma: what does it mean when 38% forget?" (1994) Journal of Consulting and Clinical Psychology 1177

Loftus and Ketcham, "The myth of repressed memory" (St Martin's Griffin, New York, 1994)

Loftus and Loftus, "On the permanence of information stored in the human brain" (1980) 35 American Psychologist 409

Loftus and Pickerell, "The formation of false memories" (1995) 24 Psychiatric Annals 720

Loftus, Polonsky and Fullilove, "Memories of childhood sexual abuse: remembering and repressing" (1994) 18 Psychology of Women Quarterly 67

McConkey, "Hypnosis, memory and the ethics of uncertainty" (1995) 30 Australian Psychologist 1

McDowell and Swan, "Ethical practice: working with memory", Bulletin of the NZ Psychological Society No 84 March 1995, 56

McLosky and Zaragoza, "Misleading postevent information and memory for events: arguments and evidence against memory impairment hypotheses" (1985) 114 Journal of Experimental Psychology: General 1

Midson, "How psychologists can assist in the recovered memory arena" (1996) 4 Waikato LR 167

Olio, "Are 25% of clinicians using potentially risky therapeutic practices? A review of the logic and methodology of the Poole, Lindsay et al study" (1996) 24 Journal of Psychiatry & Law 277

Pezdek and Roe, "Memory for childhood events: how suggestible is it?" in Pezdek and Banks (eds), 1996

Pipe, "Remembering in extraordinary contexts", *The Bulletin* (NZ Psychological Society) No 84 March 1995, 43

Poole and Lindsay, "Uses and abuses of Poole, Lindsay, Memon and Bull's (1995) data" (1998) 53 American Psychologist 681

Poole, Lindsay, Memon and Bull, "Psychotherapy and the recovery of memories of childhood sexual abuse: US and British practitioners' opinions, practices, and experiences" (1995) 63 Journal of Clinical and Consulting Psychology 426

Poole, Lindsay, Memon and Bull, "Did Pope (1996) read a different Poole, Lindsay, Memon and Bull (1995)?" (1997) 52 American Psychologist 990

Pope, "Memory, abuse, and science: questioning claims about the false memory syndrome epidemic" (1996) 51 American Psychologist 957

Pope and Hudson, "Can memories of childhood sexual abuse be repressed?" (1995) 25 Psychological Medicine 121

Pope, Hudson, Bodkin and Oliva, "Questionable validity of 'dissociative amnesia' in trauma victims" (1998) 172 British Journal of Psychiatry 210

Read, "Child abuse and psychosis: why we deny the facts" Bulletin of the NZ Psychological Society No 84 March 1995, 48

Roe and Schwartz, "Characteristics of previously forgotten memories of sexual abuse: a descriptive study" (1996) 24 Journal of Psychiatry & Law 189

Scheflin and Brown, "Repressed memory or dissociative amnesia: what the science says" (1996) 24 Journal of Psychiatry & Law 143

Schooler, "Seeking the core: the issues and evidence surrounding recovered accounts of sexual trauma" in Pezdek and Banks (eds), 1996

Seymour, "Memory and child abuse", *The Bulletin* (NZ Psychological Society) No 84 March 1995, 28

Seymour, "Memory and childhood abuse: the psychological evidence" (1996) 4 Waikato LR 155

Spanos, "Multiple identity enactments and multiple personality disorder: a sociocognitive perspective" (1994) 116 Psychological Bulletin 143

Terr, "True memories of childhood trauma: flaws, absences, and returns" in Pezdek and Banks (eds), 1996

Toglia, "Recovered memories: lost and found?" in Pezdek and Banks (eds), 1996

Usher and Neisser, "Childhood amnesia and the beginnings of memory for four early life events" (1993) 122 Journal of Experimental Psychology: General 155

Wagenaar and Groeneweg, "The memory of concentration camp survivors" (1990) 4 Applied Cognitive Psychology 77

Williams, "Recall of childhood trauma: a prospective study of women's memories of child sexual abuse" (1994) 62 Journal of Consulting and Clinical Psychology 1167

Williams, "What does it mean to forget child sexual abuse? A reply to Loftus, Garry, and Feldman (1994)" (1994) 62 Journal of Consulting and Clinical Psychology 1182

Williams, "Recovered memories of abuse in women with documented child sexual victimisation histories" (1995) 8 Journal of Traumatic Stress 649

Other papers

Australian Psychological Society, "Guidelines relating to the reporting of recovered memories" *The Bulletin* (NZ Psychological Society) No 84 March 1995, 61

American Psychological Association, "Interim report of the working group on investigation of memories of childhood sexual abuse" in Pezdek and Banks (eds), 1996

Cash and Moss (1972, April). Optimum recall period for reporting persons injured in motor vehicle accidents (National Center for Health Statistics. Vital and Health Statistics. Series 2, No. 50. DHEW Publication No. HSM 72–1050. Health Services and Mental Health Administration Washington, DC: U.S. Government Printing Office

Pipe, Bottoms, Diviak and La Rooy, "Memories of abuse: a New Zealand survey of clinicians' and therapists' experiences and beliefs", an Unpublished Survey

"Recovered memories: the report of the Working Party of the British Psychological Society" in Pezdek and Banks (eds), 1996

Royal College of Psychiatrists' Working Group on Reported Recovered Memories of Child Sexual Abuse, "Recommendations for good practice and implications for training, continuing professional development and research" (1997) 21 Psychiatric Bulletin 663

Theses

Browning, "Sensation or syndrome? Retrench or relax? Recovered Memory and New Zealand's Search for Justice" LLB (Hons) dissertation, University of Otago, 1995

Midson, "Determining the truth in recovered memory cases" University of Waikato, 1996, MJur thesis

OTHER LAW COMMISSION PUBLICATIONS:

Report series

NZLC R1	Imperial Legislation in Force in New Zealand (1987)
NZLC R2	Annual Reports for the years ended 31 March 1986 and 31 March 1987 (1987)
NZLC R3	The Accident Compensation Scheme (Interim Report on Aspects of Funding) (1987)
NZLC R4	Personal Injury: Prevention and Recovery (Report on the Accident Compensation Scheme) (1988)
NZLC R5	Annual Report 1988 (1988)
NZLC R6	Limitation Defences in Civil Proceedings (1988)
NZLC R7	The Structure of the Courts (1989)
NZLC R8	A Personal Property Securities Act for New Zealand (1989)
NZLC R9	Company Law: Reform and Restatement (1989)
NZLC R10	Annual Report 1989 (1989)
NZLC R11	Legislation and its Interpretation: Statutory Publications Bill (1989)
NZLC R12	First Report on Emergencies: Use of the Armed Forces (1990)
NZLC R13	Intellectual Property: The Context for Reform (1990)
NZLC R14	Criminal Procedure: Part One: Disclosure and Committal (1990)
NZLC R15	Annual Report 1990 (1990)
NZLC R16	Company Law Reform: Transition and Revision (1990)
NZLC R17(S)	A New Interpretation Act: To Avoid "Prolixity and Tautology" (1990) (and Summary Version)
NZLC R18	Aspects of Damages: Employment Contracts and the Rule in *Addis v Gramophone Co* (1991)
NZLC R19	Aspects of Damages: The Rules in *Bain v Fothergill* and *Joyner v Weeks* (1991)
NZLC R20	Arbitration (1991)
NZLC R21	Annual Report 1991 (1991)
NZLC R22	Final Report on Emergencies (1991)
NZLC R23	The United Nations Convention on Contracts for the International Sale of Goods: New Zealand's Proposed Acceptance (1992)
NZLC R24	Report for the period l April 1991 to 30 June 1992 (1992)
NZLC R25	Contract Statutes Review (1993)
NZLC R26	Report for the year ended 30 June 1993 (1993)
NZLC R27	The Format of Legislation (1993)
NZLC R28	Aspects of Damages: The Award of Interest on Money Claims (1994)
NZLC R29	A New Property Law Act (1994)
NZLC R30	Community Safety: Mental Health and Criminal Justice Issues (1994)
NZLC R31	Police Questioning (1994)
NZLC R32	Annual Report 1994 (1994)
NZLC R33	Annual Report 1995 (1995)
NZLC R34	A New Zealand Guide to International Law and its Sources (1996)
NZLC R35	Legislation Manual: Structure and Style (1996)
NZLC R36	Annual Report 1996 (1996)
NZLC R37	Crown Liability and Judicial Immunity: A response to *Baigent's* case and *Harvey v Derrick* (1997)
NZLC R38	Succession Law: Homicidal Heirs (1997)
NZLC R39	Succession Law: A Succession (Adjustment) Act (1997)
NZLC R40	Review of the Official Information Act 1982 (1997)

NZLC R41	Succession Law: A Succession (Wills) Act (1997)
NZLC R42	Evidence Law: Witness Anonymity (1997)
NZLC R43	Annual Report 1997 (1997)
NZLC R44	Habeas Corpus: Procedure (1997)
NZLC R45	The Treaty Making Process: Reform and the Role of Parliament (1997)
NZLC R46	Some Insurance Law Problems (1998)
NZLC R47	Apportionment of Civil Liability (1998)
NZLC R48	Annual Report 1998 (1998)
NZLC R49	Compensating the Wrongly Convicted (1998)
NZLC R50	Electronic Commerce Part One: A Guide for the Legal and Business Community (1998)
NZLC R51	Dishonestly Procuring Valuable Benefits (1998)
NZLC R52	Cross-Border Insolvency: Should New Zealand adopt the UNCITRAL Model Law on Cross-Border Insolvency? (1999)
NZLC R53	Justice: The Experiences of Māori Women : Te Tikanga o te Ture: Te Mātauranga o ngā Wāhine Māori e pa ana ki tēnei
NZLC R54	Computer Misuse (1999)

Study Paper series

NZLC SP1	Women's Access to Legal Services

Preliminary Paper series

NZLC PP1	Legislation and its Interpretation: The Acts Interpretation Act 1924 and Related Legislation (discussion paper and questionnaire) (1987)
NZLC PP2	The Accident Compensation Scheme (discussion paper) (1987)
NZLC PP3	The Limitation Act 1950 (discussion paper) (1987)
NZLC PP4	The Structure of the Courts (discussion paper) (1987)
NZLC PP5	Company Law (discussion paper) (1987)
NZLC PP6	Reform of Personal Property Security Law (report by Prof J H Farrar and M A O'Regan) (1988)
NZLC PP7	Arbitration (discussion paper) (1988)
NZLC PP8	Legislation and its Interpretation (discussion and seminar papers) (1988)
NZLC PP9	The Treaty of Waitangi and Māori Fisheries – Mataitai: Nga Tikanga Māori me te Tiriti o Waitangi (background paper) (1989)
NZLC PP10	Hearsay Evidence (options paper) (1989)
NZLC PP11	"Unfair" Contracts (discussion paper) (1990)
NZLC PP12	The Prosecution of Offences (issues paper) (1990)
NZLC PP13	Evidence Law: Principles for Reform (discussion paper) (1991)
NZLC PP14	Evidence Law: Codification (discussion paper) (1991)
NZLC PP15	Evidence Law: Hearsay (discussion paper) (1991)
NZLC PP16	The Property Law Act 1952 (discussion paper) (1991)
NZLC PP17	Aspects of Damages: Interest on Debt and Damages (discussion paper) (1991)
NZLC PP18	Evidence Law: Expert Evidence and Opinion Evidence (discussion paper) (1991)
NZLC PP19	Apportionment of Civil Liability (discussion paper) (1992)

NZLC PP20	Tenure and Estates in Land (discussion paper) (1992)
NZLC PP21	Criminal Evidence: Police Questioning (discussion paper) (1992)
NZLC PP22	Evidence Law: Documentary Evidence and Judicial Notice (discussion paper) (1994)
NZLC PP23	Evidence Law: Privilege (discussion paper) (1994)
NZLC PP24	Succession Law: Testamentary Claims (discussion paper) (1996)
NZLC PP25	The Privilege Against Self-Incrimination (discussion paper) (1996)
NZLC PP26	The Evidence of Children and Other Vulnerable Witnesses (discussion paper) (1996)
NZLC PP27	Evidence Law: Character and Credibility (discussion paper) (1997)
NZLC PP28	Criminal Prosecution (discussion paper) (1997)
NZLC PP29	Witness Anonymity (discussion paper) (1997)
NZLC PP30	Repeal of the Contracts Enforcement Act 1956 (discussion paper) (1997)
NZLC PP31	Compensation for Wrongful Conviction or Prosecution (discussion paper) (1998)
NZLC PP32	Juries in Criminal Trials: Part One (discussion paper) (1998)
NZLC PP33	Defaming Politicians: A Response to *Lange v Atkinson* (discussion paper) (1998)
NZLC PP34	Retirement Villages (discussion paper) (1998)
NZLC PP35	Shared Ownership of Land (discussion paper) (1999)
NZLC PP36	Coroners: A Review (discussion paper) (1999)