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EYEWITNESS IDENTIFICATION AND TESTIMONY:

HUMAN INTUITION AND THE JURY SYSTEM

by

John Albert Winterdyk

B.A. (Hons.), Wilfrid Laurier University, 1978

M.A., Simon Fraser University, 1980

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
PH.D. (SPECIAL ARRANGEMENTS)

in the School

of

Criminology

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APPROVAL

Name: John Albert Winterdyk

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Examining Committee:

Chairman: N.E. Dyck, Associate Professor,
Department of Anthropology

Ronald Roesch
Senior Supervisor

Raymond R. Corrado

Margaret A. Jackson,

David Cox
External Examiner, Psychology
Department, Simon Fraser University

J. Don Read
External Examiner,
Department Of Psychology
University of Lethbridge

Date Approved: March 23, 1987

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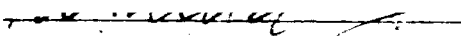
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Author:


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John Albert Winterdyk

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ABSTRACT

Research on eyewitness testimony has focused on a number of issues related to the ability of eyewitnesses to recall accurately witnessed events and the ability of jurors to draw conclusions about the reliability of an eyewitness' statement. Related to these issues is the extent to which a juror has common sense or intuitive knowledge about the reliability and validity of eyewitness testimony. Understanding of the latter is important because if jurors do not have this knowledge, then expert testimony may be needed to inform the jury in this area. These issues of intuitive knowledge, the need for expert testimony, and the impact of judicial instructions on jury decision-making are examined in two experiments. In the first experiment, a 25-item questionnaire was administered to four different groups (lawyers, police officers, psychologists, and student 'jurors'). The primary purpose was to examine whether there were any differences among the groups with respect to their knowledge about eyewitness testimony issues as reported in the literature. The second experiment used a written summary of a murder trial to measure the potential effect of judicial instructions on juror decision-making individually and on jury teams. Five different jury instruction conditions and two different factual scenarios were devised. Contrary to the beliefs held by some members of the judiciary, the results from Experiment 1 showed that knowledge about eyewitness issues is not based on common sense or intuitive knowledge and that one's

general familiarity with the area does not necessarily indicate a more accurate knowledge base on eyewitness issues. It was also observed that while psychologists generally felt that they could play an important role in informing jurors about eyewitness issues, the police officers did not feel that expert psychological testimony in this area should be permitted in court. The findings from Experiment 2 indicated that, contrary to some of the results reported in the literature, potential jurors, regardless of whether they were in groups or responded individually, were not sensitive to eyewitness issues or facts. Furthermore, their decision-making process was also not affected by the manner in which they were cautioned about an eyewitness' testimony. A discussion of the theoretical and practical implications of the findings, recommendations for change in judicial practices, and future research considerations are provided in the concluding chapter.

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Few people upon completing a major task can claim sole responsibility for its conception and completion. While the content and comments expressed in this thesis are solely those of the author, there are a number of people who offered me their continued support and guidance throughout this thesis.

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DEDICATION

To my Grandfather

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PREFACE

Understanding, explaining and predicting human behavior have been interests that have preoccupied laypersons, 'informed' educators and researchers for a long time. Some of the practical applications emanating from this area have had profound impacts on how we respond to and/or deal with certain situations in our everyday life. One such area of interest involves the consideration of eyewitness testimony by a jury panel in its deliberations on the guilt or innocence of an individual. The outcome of this situation alone has far reaching implications for alleged offenders, faith in our legal system, credibility of jury trials, and beliefs about our memory and judgment. A number of 'conflicts' have arisen between psychologists who are experts in the area eyewitness identification and testimony and members of the legal profession over how eyewitness testimony should be handled in a court case and whether the presentation of expert testimony is useful in helping to identify and address some of the potential problems inherent in eyewitness evidence as presented in court.

Although empirical research on eyewitness testimony began around the turn of the 20th Century, serious interest in this area did not begin until the mid-seventies after the Devlin Report (1976). Despite the vast number of articles and texts on eyewitness testimony, there does not appear to be any clear taxonomy with which researchers can address the topic.

The present research was prompted by an evaluation conducted by Dr. Roesch and myself of a robbery prevention (RP) program for convenience stores in Vancouver. Part of the RP program involved the use of an eyewitness identification/description sheet. In the event of a robbery, the identification sheet was to be completed by the eyewitness, with the intention that the description sheet would facilitate the police in identifying and apprehending the offender(s).

During the study period, an insufficient number of the eyewitness description forms were used and too few offenders were apprehended in order to assess the usefulness of the identification sheets. The idea, however, that people could be trained to recall reliably what they had witnessed prompted further reading in the area of eyewitness identification and testimony. Despite the position advocated by the RP program, my own experience and intuition had led me to believe that recall and recognition were not always trustworthy and that certain situational and individual factors seemed either to enhance or to interfere with recall and recognition ability. While my concerns are not new or novel as a survey of the literature will reveal, many of the issues are still being examined and more comprehensive explanations sought.

This thesis is offered as a contribution to the area of eyewitness testimony in an effort to further our knowledge and understanding of human behavior and improve our handling of court proceedings involving eyewitnesses and jurors. As Hastie,

Penrod, and Pennington (1983) have noted; past research has been of limited use to legal policies and procedures. But, it is time for the Court to move beyond speculation and judicial intuition concerning the fact of jury performance on eyewitness testimony (Loftus & Monahan, 1980). Knowledge grounded on systematic empirical research, can reduce the dependence of legal policy makers to rely on tradition and intuition.

CHAPTER I

INTRODUCTION

Eyewitness testimony has received increasing attention in recent years¹ from both psychologists and legal professionals (see Bray & Kerr, 1982; Lloyd-Bostock & Clifford, 1983; Loftus, 1979; Wells & Loftus, 1984; Yarmey, 1979). Research has primarily focused on the explanation and prediction of the social, situational, interrogational, and individual factors which can affect the reliability of eyewitnesses as well as on methods of structuring situations which can improve the accuracy of eyewitness testimony. The recent interest in eyewitness investigation reflects two major perspectives. One perspective in this area of inquiry relates to the need to examine and understand human memory and social behavior in its natural context (Wells & Loftus, 1984). The second perspective emphasizes the theoretical and practical applicability of such study. For years, psychologists had simply confined themselves to laboratory based research. Today, however, there appears to be not only a continued search for improved theories about human memory and social behavior, but in many cases, such exploration is considered best accomplished in the natural environment.²

¹Davies, Ellis, and Shepherd (1978) note that prior to the 1970s, only about a dozen articles on this topic appeared in the journals. In the 1970s, some 600 articles were published. Wells and Loftus (1984:3) estimate "that over 85% of the entire published literature (on eyewitness testimony) has surfaced since 1978."

²While such research was traditionally criticized for its methodological problems, scholars such as Cook and Campbell

Eyewitness testimony has been used in the investigation of many cases for the purpose of determining whether the accused was the actual perpetrator of the offence for which he/she was charged. Despite the fact that eyewitnesses have played an important role, however, it is realized that such evidence is "opinion evidence" or "unsubstantiated conjecture", and as a result, the reliability of such testimony has continually been challenged. Guidelines upon which to substantiate or refute an eyewitness' testimony are constantly being sought³ (see Brooks, 1983). The ultimate objective of the court, after all, is to provide and ensure fair and equitable justice to all (Law Reform Commission, 1980). Eyewitness evidence, however, is exceptionally difficult to assess. The need to explore in greater depth the conditions under which eyewitness evidence can be accepted in courts of law is further underscored by the fact that innocent individuals have indeed been sentenced to jail because of mistaken identification. A recent case that attained national attention, in Canada, in 1982 was that of Donald Marshall from Nova Scotia. Based, in part, on the evidence

²(cont'd) (1979) have helped set the stage to enable researchers to conduct sound research under natural (quasi-experimental) conditions or *in situ*. For a discussion about how these methods relate to studies on eyewitness identification and testimony, see Bray and Kerr (1982) and Konečni and Ebbesen (1981) for opposing views regarding which strategy is considered more appropriate.

³As one Canadian judge noted, eyewitness evidence "is a most insecure basis upon which to found that abiding and moral assurance of guilt necessary to eliminate reasonable doubt" (R. v. Smith [1942] O.R. 432 (C.A.) per Mackay, J.A. at p.436. Cited in the Law Reform Commission (LRC), working paper No. 34, 1984:28).

supplied through eyewitness testimony, Marshall was found guilty and imprisoned for eleven years for a murder he did not commit, before his innocence was finally uncovered through the testimony of the person who had actually committed the crime.⁴ A detailed account of Marshall's ordeal has recently been published in a book authored by Michael Harris (1986).

Part of the explanation for mistaken identification may rest with the false notions held by (some) lay jurors and eyewitnesses about people's ability to accurately recall and recognize faces and incidents (see Brigham & Wolfskeil, 1983; Wells & Hryciw, 1984; Wells & Lindsay, 1983; Yarmey & Jones, 1983). This issue has led to numerous debates both about the use, in a court of law, of experts in the area of eyewitness testimony and about whether specific guidance might be warranted for the judge's instructions to the jury in this area. While some writers have argued in favor of allowing such experts to testify in court (see Buckhout, 1974; Greer, 1971; Hollin, 1982; Loftus, 1979; 1984), others have argued against, or at least

⁴ For further discussion and review of cases involving wrongful convictions, see Borchard (1932), Buckhout (1984) and/or Brandon and Davies (1973). Of the 65 cases Borchard studied involving wrongful convictions, 29 (45%) of the wrongful convictions were at least partly attributable to mistaken identification. See the Devlin Report (1976) for a general discussion of wrongful conviction statistics and cases. Another recent case, which has received considerable attention, is that of Kenneth Warwick, now known as Norman Fox. Warwick, in 1976, was wrongfully convicted and imprisoned for having brutally raped a woman. He was positively identified in a photo spread by the victim. (Taylor, 1984, discusses some of the problems with the line-up and photo spread used. He argues that they contributed to Warwick's wrongful conviction). Eight years later, based on new evidence, he was found to be not guilty of this offence.

raised questions about, the use of expert testimony in a court of law (see Egeth & McCloskey, 1984; McCloskey & Egeth, 1983) in this regard.⁵

Part of the problem with eyewitness testimony, then, is that while scientific evidence has raised certain questions about the credibility of eyewitnesses and the intuitive knowledge of those who are triers of such testimony, the courts have been reluctant to allow expert testimony on eyewitness matters to help resolve certain issues.⁶ In fact, the courts tend to rely on the traditional safeguards against erroneous convictions: the belief that most people have developed adequate intuitive knowledge of how certain factors can affect an eyewitness' performance;⁷ the scepticism of juries; the force of cross-examination; and the guidance of judicial instructions.

⁵Gudjonsson (1984) notes that the testimony of experts on eyewitness research in a court of law although being constantly challenged, can provide useful information and insight for the court about the abilities of eyewitnesses. Given the nature of cross-examinations, however, he notes that many experts lack the ability to handle courtroom cross-examinations and that a specialized training program should be offered for those interested in acting as experts in the court.

⁶It should be noted that expert evidence is often used to challenge the credibility of a witness (Law Reform Commission, 1984). Suggs (1979) notes, however, that many judges feel that such testimony invades the province of the jury; that is, expert testimony could be used to discredit a witness, but it is traditionally the jury's task to determine witness credibility (also see Loftus, 1980).

⁷For example, in *Dyas v. United States* (1977), the judge reported "we are persuaded that the subject matter of the proffered testimony is not beyond the ken of the average layman nor would such testimony aid the trier in a search for the truth" (p.832).

Attempts to resolve the dispute between the value of scientific evidence as compared to relying on a lay person's intuitive knowledge about human memory have been relatively few (four published studies to date).⁸ The research that has been done suggests that more information is still vitally needed. We need to address not only the practical issue of whether expert witnesses in this area should be allowed in court, but we also need to examine the theoretical issue of whether and to what degree, if any, awareness about eyewitness testimony and identification issues is intuitively known. Twining (1983), for example, argues that eyewitness research must be based upon a more comprehensive and articulated theoretical framework. He suggests that current research has not been well guided by any sound theory. As an illustration, while eyewitness research has continued to "push forward" in an effort to improve its techniques for identifying suspects, little evidence has been advanced to explain how, why, and under what conditions eyewitnesses can provide reliable testimony.

⁸During this study, (through personal communications) the author became aware of two additional studies which are being conducted on the topic. One is being done by Dr. Laurence at Concordia University in Québec and the other at Stanford University in California by Doctors Ellsworth, Kassin, and Smith.

Purpose and Scope of the Present Study

The present study had two primary objectives which are explored in two separate experiments. The first objective is to examine the level of awareness that different populations (lay triers of facts or jurors, and 'informed' individuals) have about the effect of certain "estimator" and "system" variables on the recall and cognition abilities of an eyewitness.⁹ In essence, the first objective/experiment is to further examine the extent to which intuitive beliefs about eyewitness issues differ from evidence in the field.¹⁰

The objectives of the second experiment are twofold. First, an effort was made to determine whether or not different factual versions, as well as the timing of cautioning/instructing a jury of the requirements of proof and limitations of eyewitness

⁹Estimator variables are defined as those variables "that affect eyewitness accuracy but are not under the control of the criminal justice system...these variables may be manipulated in research, they cannot be controlled in actual cases" (e.g., characteristics of the witness, levels of arousal, age of witness, race of offender and witness, etc.) (Wells, 1978:1548; also see Wells & Wright, 1986). System variables are defined as those variables "under the direct control of the criminal justice system" (e.g., the structure of a line-up, order of cautionary message by the court, etc.) (Wells, 1978:1548).

¹⁰Wells & Lindsay (1983:46) use the label "intuitive memory theory" in their discussion of how it is that "people judge the accuracy of another person's memory." The label "refers to the individual's knowledge of an awareness of memory, or of anything pertinent to information storage and retrieval." Interestingly, Wells and Lindsay (1983:46) note that despite all the time and effort social psychologists have spent studying social cognition, "we have little in the way of theoretical or empirical analysis...how the person on the street comes to rely on or discount someone else's memory."

testimony, can affect the impact that the eyewitness testimony has on the jury's final verdict.

The second general aim of Experiment 2 is to explore the cognitive processes involved in jury decision-making and the related level of confidence that juries place in their decisions.

Together, the two experiments will examine some of the theoretical discussions about eyewitness testimony as well as the practical applicability of such information to court proceedings. In addition, the second experiment is intended to help define the optimal set of circumstances in which a cautionary message would be most effective. A brief section of the questionnaire used in Experiment 1 also explores the attitude of the four groups to several questions concerning procedural issues in court. The questions pertain to the role of expert psychological testimony, how jurors should treat eyewitness evidence, and whether or not judges should be obligated to inform jurors about the limitations of eyewitness testimony.

With respect to the first objective in Experiment 1, there have been mixed views ever since Münsterberg's observations on this topic in 1908. That is, if psychologists are informed about eyewitness research, are they any more knowledgeable about the reliability and/or accuracy of an eyewitness' testimony than lay triers of such evidence? In North America, judges still have the

discretion to accept or not accept expert testimony in their court for a particular case.¹¹ In fact, in Canada, the judiciary is reluctant to accept testimony from eyewitness experts (Brannigan, 1984; Yuille, 1980).¹² This may, in part, be a result of the faith placed by judges in the accuracy of eyewitness testimony per se. Yarmey and Jones (1983:13) observed, for example, that:

Many people believe that their years of experience, their maturity and their objective way of looking at things gives them a body of knowledge which can be trusted, and which allows them to make good decisions. This information derived from unique, personal experiences is assumed to be general, obvious, and available to everyone... Even worse, because of their familiarity and uncomplicated conclusions, common sense arguments can become articles of faith which are used as buffers against scientific analyses and practical applications.

¹¹The criteria for accepting eyewitness testimony in U.S. courts were formulated in the Neil vs. Biggers case in 1972. Five criteria were identified for determining accuracy: "(a) The opportunity of the witness to view the criminal at the time of the crime, (b) the witness' degree of attention, (c) the accuracy of the witness' prior description of the criminal, (d) the level of certainty demonstrated by the witness at the time of confrontation, and (e) the length of time between the crime and the confrontation" (Wells & Murray, 1983:348). In Canada, four factors were identified concerning the reliability of eyewitness evidence, namely: (1) the circumstances of the witness' observation of the perpetrator; (2) the amount of time which has elapsed since the observation; (3) prior acquaintance of the eyewitness with the perpetrator; and (4) the presence or absence of features which are distinctive to the appearance of the perpetrator (Law Reform Commission, 1983).

¹²Yuille (1980) identifies four reasons why Canadian judges are reluctant to accept expert testimony in their courts. These involve the premises: (1) that any such information is general knowledge to the public in the first place, (2) that any such evidence would interfere with the judiciary process of establishing guilt, (3) that eyewitness identification and psychology is not a science, and (4) that any such evidence might place undue weight on eyewitness testimony.

This reluctance may also, in part, be a result of the fact that even though experts may be well trained, their evidence is still speculative opinion. Even if scientific tests are used, the reliability of such tests is generally not very high, and again, their interpretations are somewhat dependent on (informed) opinion (see the comments made by Ziskin, 1981, Chapter VIII).

Yarmey and Jones (1983), among others, have recently demonstrated, however, that there are discrepancies between a scientific expert's knowledge of eyewitness testimony and the intuitive knowledge of civilians. Until recently, the extent of any such differences has not been thoroughly explored. Brigham and Wolfskeil (1983:348) note that surveys in this area could provide "information from a much-neglected perspective in psychology research on eyewitness testimony." Exploring the accuracy of knowledge about eyewitness testimony of *informed* and *uninformed* people could provide further evidence as to whether experts should be allowed to provide information in a court, how much weight their testimony should be given, the conditions under which their informed opinions should be sought, and more generally, to what extent an eyewitness' opinion can be considered reliable.¹³

¹³It should be noted that, at this point, the first objective is *not* concerned with how people infer the accuracy of eyewitness memory, but with the degree to which their knowledge base differs depending on their level of being *informed* about eyewitness memory. Since eyewitness testimony is really nothing more than speculative opinion or "unsubstantiated conjecture", its credibility can therefore vary under certain conditions. For example, Wells and Lindsay (1983:46) note "we have little in the way of theoretical or empirical analysis" about how a lay person comes to rely on or discounts another's memory.

The public and perhaps, more importantly, the criminal justice system should be informed about any false assumptions or misconceptions that they might have about eyewitness evidence. Although a great deal of descriptive information exists surrounding the factors which affect the reliability of eyewitness identification, much of this information is not readily available to the public or to the criminal justice system. Loftus (1979:177), for example, concludes after her review of the beliefs held about eyewitness accounts that "(m)ore research is badly needed to correct the mistaken notion that an expert psychologist cannot tell the jury anything it does not already know."

Based on the suspected degree of difference between the knowledge about eyewitness ability held by informed persons/ 'professionals' (experts) and that held by non-informed persons/ non-professionals, the study attempts to resolve, to a greater degree, the issue of whether experts in the area of eyewitness research should be allowed to testify in a court of law and to what extent they may be of use in clarifying the reliability of an eyewitness' testimony. Greer (1971) has observed, for example, that judges and psychologists do not always concur on which factors can affect eyewitness accuracy. Yuille (1980:335), in his examination of eyewitness research, notes that "eyewitness performance is substantially different qualitatively and quantitatively from what the average person would predict." Therefore, a related objective of the study is to examine this

issue with the intention of providing information which could assist in clarifying the role of applied psychology in the legal environment.

With respect to the second major objective of the study, written summaries of a murder trial are used to examine the impact upon jurors, singly and in groups, of five different cautioning conditions: no instruction, expert's testimony, judge's: informal forewarning, minimal postwarning, and informal postwarning.

Since there are few guidelines in the Canadian court system that suggest how jurors should be instructed (see LRC, working paper No. 27, 1980)¹⁴, and since it is generally agreed that various proceedings can have an impact on the juror's decision-making process, the latter objective will explore this issue. In addition, certain case facts (e.g., age, race, time of event, etc.) are altered so that it is possible to make comparisons with the issues examined in the first experiment. The design of the written murder trials also allows for an analysis of the decision-making (cognitive) process(es) and provides an indication of the level of confidence which the jurors have in their decisions.

¹⁴Brannigan (1984) has recently observed that most jurors do not sufficiently understand criminal law to make informed decisions from the various forms of evidence they may be exposed to during the course of a trial. This will be discussed in greater detail in Chapter VI.

The thesis is divided into eleven chapters. Chapter II presents an overview of the roots and evolution of eyewitness research. The review places the current literature into a historical perspective. Chapter III examines the evidence on the use of expert testimony and the extent to which 'common sense' (intuitive) knowledge differs from the research findings. This section serves to identify what has and has not been done in the area. Chapter IV summarizes some of the literature pertaining to the various "estimator" and "system" factors which are thought to influence an eyewitness' ability. The review is used to illustrate how, in many areas of investigation, a consensus among investigators is sometimes lacking. Chapter V discusses some of the theoretical perspectives relating to intuition and some of the issues and concerns surrounding the encoding and retrieval processes. While knowledge about these processes is fundamental to the understanding of memory processes, an extensive review of this area is not included. Rather, this information is outlined simply to provide some insight into why eyewitness research has been fraught with problems and why the evidence found to date might at best be considered confusing. The first five chapters indicate the need for the current research and provides a rationale for the methodology. Chapter VI outlines and discusses the key actors in a criminal court case, namely, a trial judge, a jury, an expert witness and a defence counsel. The chapter serves to illustrate the complexity and general vagueness in which the courts can operate. It also illustrates how the various actors in the course of a trial

might affect a juror's evaluation/perception of an eyewitness' testimony. Finally, the discussion provides the rationale for conducting the second experiment. Chapter VII is the Methodology section for Experiment 1 which is then followed by the Results and Discussion in Chapter VIII. The Methodology, and Results and Discussion for Experiment 2 are presented in Chapters IX and X respectively. The final chapter, Chapter XI, includes the General Discussion and recommendations for future research.

CHAPTER II

EYEWITNESS RESEARCH: TRACING ITS ROOTS

7 A very considerable portion of crimes and wrongs which disturb the order of human society result either directly or indirectly from the apparent impossibility of distinguishing in every case and with unerring certainty one individual from another. It is for this reason, especially, that so many of the professional and habitual criminals who abound in every land have hitherto gone 'unwhipt of justice' (A. Bertillon, 1896:vii).

According to Hollin (1982), scientific investigation into eyewitness testimony is a relatively new practice. The awareness of the importance of eyewitness memory, however, can trace its roots back to the Egyptian Ptolemies and the Romans in the Second Century B.C. In fact, ancient Greek mythology spoke of a goddess named Mnemosyne who was the goddess of memory. In reference to artistic creations, Leonardo da Vinci was one of the first to suggest that one's ability to recognize a face could be improved by initially breaking down the face into its separate components. It was not until the late 1800s and early 1900s, however, that investigators began to examine empirically how people remember and reconstruct events. One of the first to offer a scientific strategy for assisting memory reconstruction was the French anthropologist Alphonse Bertillon.¹

¹See Bertillon (1896) for an interesting view of how intellectualists and researchers at the turn of the century viewed memory. Bertillon, being an anthropologist, also presented some (which now appear somewhat humorous) suggestions on how to distinguish criminals from non-criminals in the Lombrosian tradition.

Bertillon was responsible for pioneering the first formal process for the classification of wanted people. His strategy was referred to as "anthropometrical signalment". This technique was intended to describe criminals systematically according to their physical measurements, through the description of various parts of their body, such as the head, arms, torso, legs, and feet. The system, however, has proven to be difficult and inefficient in its practical applications (Yarmey, 1979).²

A second strategy developed by Bertillon, in an attempt to identify suspects, was a system referred to as *portrait parle*. The use of this technique allowed law enforcement personnel to be able to create mental images of suspects through verbal descriptions of their faces. Yarmey (1979) noted that this technique was welcomed and readily adopted by many police forces; in fact, some aspects of this procedure are still used today. Although this approach seemed slightly more promising and practical than the signalment technique, Yarmey (1979:146) noted that "(l)ittle relationship has been found between verbal labeling and recognition memory for faces."

After the *portrait parle* came the use of the photograph to assist in identification.³ Belgium, in 1843, was the first

²It is perhaps interesting to note that since Bertillon's work, aspects of his work and ideas have been adapted in various modified forms by such people as Hooten (1939), Kretschmer (1926), and Sheldon (1940) who all worked with body types and measurements to some degree.

³Interestingly, Bertillon noted in his book that "thirty years ago it was believed that photography was going to furnish the solution...(b)ut the collection of judicial portraits thus

country to make use of 'mug shots' for persons arrested. The photographing technique was named after its inventor Daguerre, in 1839, and the photos were referred to as *daguerre types*. It was not until some twenty years later, in 1867, that photography was used in the United States by the Cleveland, Ohio Police Department. From 1867 until 1898 only frontal image shots were used. After 1898, however, profile photographs were added because it was felt that they provided more information about an individual's appearance than a frontal view alone.

Photographs are now almost standard equipment in all major police departments. However, it is still not known whether color or black-and-white pictures are more reliable for identification purposes. Laughery, Alexander, and Lane (1971), for example, found that there is no difference between the two in this respect, while Tickner and Poulton (1975) argue that color pictures can better facilitate recall performance.

Bertillon's work was closely followed by that of Hugo Münsterberg at the turn of the century. Münsterberg's efforts represented one of the first attempts to assist the courts in evaluating eyewitness testimony. His work demonstrated an application of psychology to legal problems, namely, to legal procedures. These efforts were designed to demonstrate to the

³(cont'd) brought together soon became so numerous that it became physically impossible to find, to discover, among them the likeness of an individual who concealed his name" (1896:12). It was not until fairly recently that researchers have begun to suggest that the practice of sifting through numerous mug-shots is less effective than trying to isolate a number of pictures based on the eyewitness' general description of the subject.

courts the role that psychologists could play in evaluating the reliability of eyewitness testimonies, as well as to help identify those factors which might affect an eyewitness' ability in the recognition or recall of an event/individual.

While there was a growing interest in eyewitness research and its practical application prior to the 1930s, between the 1930s and the late 1970s, there was a dearth of activity in this area. Sporer (cited in Wells & Loftus, 1984:6) suggests that this decline was due in part to World War II demands of a shift in focus for experimental psychology research, coupled with the criticism that such research, being generally too carefree in its generalizations, did not stand up to the conditions of complex courtroom reality. Wells and Loftus (1984), on the other hand, suggest that the decline was due to an increasing preference for theory and hypothesis testing. Regardless, eyewitness research generated little interest until the late 1970s.

Why the sudden resurgence? Wells and Loftus (1984:7) suggest that it was due to "the forcefulness of the view that progress in understanding human memory and social behavior requires a new emphasis on observations made in natural contexts." This resurgence may also have been due, in part, to a perceived need for improved professional credibility, as well as the growing need for psychology to play a constructive role in the courts (see Yarmey, 1979). Again, regardless of the reasons or rationales, beginning in the late 1970s, there was an explosion

of literature pertaining to eyewitness research.⁴

Although a great deal has been written about eyewitness testimony, one of the issues within the area of investigation which has remained relatively unexplored concerns the relationship between the knowledge known by experts in eyewitness research and that known by lay triers of fact—empirical vs. intuitive knowledge. In the next section, some of the literature in this area will be discussed.

⁴It is interesting to note that some (e.g., Sjoberg & Nett, 1968) have argued that a sign of a discipline's maturity can be measured by the paucity of texts needed to address the issues confronting it. The fact that eyewitness research, in a relatively short period of time, has produced hundreds of articles might suggest that as a research area within psychology, eyewitness testimony has only begun to scratch the surface of the questions and theoretical issues which confront it.

CHAPTER III

IS EYEWITNESS IDENTIFICATION A MATTER OF COMMON-SENSE?

The eye sees in things what it looks at in them, and it looks only at that of which the idea is already presented in the mind (Dr. Paul Richer, c. 1880).

The previous section contained a brief review of the historical roots and evolution of eyewitness identification research. Early techniques used to improve identification have not been very conclusive. While some estimator factors (Wells, 1978) have been found to affect one's memory (e.g., age, gender, stress, etc.), the conditions under which they are most influential remain unclear (see Loftus, 1979; Yarmey, 1979 for a general review of some of these factors).¹ Thus, one is left with the question: "whether and in what ways can 'scientific' psychology in such areas as memory and recognition differ from common sense" (Lloyd-Bostock & Clifford, 1983:3). The need to understand the differences between state of the art scientific knowledge and intuitive assumptions is important as eyewitness testimony in the courts is considered direct evidence rather than circumstantial evidence even though it is only based on opinion. As a result, jury verdicts based on false assumptions about the testimony of an eyewitness could carry serious implications. Saunders, Vidmar and Hewitt (1983), among others, note that jurors tend to place too much trust on eyewitness testimony.

¹Several of these factors are reviewed in Chapter IV.

Using a 6-item multiple-choice questionnaire, Loftus and Porieta (cited in Lotus, 1979:172) surveyed over 500 potential jurors, all of whom were students at the University of Washington. They were asked to respond to questions designed to sample their knowledge about various factors which might affect eyewitness accuracy (effects of stress, violence of the event, cross-racial identification, weapon focus, question wording, and effect of new conflicting post-event information). In addition, each question included a six-point confidence scale. Respondents were asked to indicate how confident they felt about their answer. Loftus and Porieta wanted to test whether correct responses correlated with the respondent's level of confidence. The results revealed that the intuitive beliefs which people have about the effects of violence and weapon focus on eyewitness accuracy were not at all consistent with experimental evidence. The highest concordance rate was for the question concerning question wording. Ninety percent of the respondents felt that small changes in the wording of a question can affect the answer a witness gives. For the other categories, the concordance between experimental evidence and "common beliefs" was approximately sixty percent. Based on the results of their study, Loftus (1979) concluded that additional research is necessary in order to more clearly demonstrate that experimental psychologists are able to inform the jury about eyewitness issues with which the jurors are not familiar.

In 1982, Deffenbacher and Loftus administered a 14-item multiple-choice questionnaire to two separate college groups; one in the State of Washington and the other in Nebraska. A total of 176 students completed the questionnaire. In addition, two groups of citizens in Washington, D.C. were sampled. One group (N=43) had some criminal trial experience in the previous five years while the other group (N=46) had none. Based on their results, it was observed that "the typical respondent's performance was above a chance, [sic] guessing level but not at all high in absolute terms... The respondents' intuitions were not at all adequate to the task when queried about the remaining domains of eyewitness behavior, however" (Deffenbacher & Loftus, 1982:24).

Yarmey and Jones (1983), using an expanded version of the Loftus and Porietas questionnaire, attempted to examine further whether answers from experts were any different, or less fallible, than common sense interpretations from less informed individuals, and if so, to what extent and in which direction these differences existed. Although their study was the most comprehensive effort to date to explore the issue, they only examined such differences as they relate to "legal rules about admissibility of expert evidence from psychologists" (Lloyd-Bostock & Clifford, 1983:3). In addition to testing five different populations (experts, legal professionals, law students, student jurors, and citizen jurors), they expanded their questionnaire to include items on such factors as

earwitness identification, police versus civilians as eyewitnesses, children as eyewitnesses, question wording, and the influence of mug-shot identifications on later identifications from a line-up. These factors all represent key areas in which much eyewitness research has been conducted (see Chapter IV for a brief review of the literature in these areas).

Yarmey and Jones (1983:33) observed that "knowledge about the psychological variables that influence eyewitness identification and testimony does not fall within the province of common knowledge." They note, however, that further clarification and expansion of the issue would allow us to illuminate the role of psychologists as experts in this area, as well as assist us in identifying those areas of discrepancy which might potentially affect jurors.

Through the analysis of 211 respondents to the 16-item multiple-choice questionnaire, mailed or administered to the five different groups, Yarmey and Jones found that on seven of the questions, there was less than a 70% concordance rate among the groups. They also found that a correct response to any one question was no indication of how the respondent would fare on another question, regardless of the group. Based on the results, Yarmey and Jones point out that the judge and/or jury should be aware of such information before deciding whether or not to accept an expert's testimony or an eyewitness' account. They also note that such research might be of relevance to the legal profession in any deliberations about the use of experts and/or

eyewitnesses. Furthermore, determining how various factors (e.g., information bias, level of confidence, level of self-monitoring) might affect the jury would also be of significance to the legal profession in examining an eyewitness.

Wells and Lindsay (1983), in their review of the literature on the reliability of eyewitness accounts, offer an explanation through the use of a "metamemory" analytic model of how people infer the accuracy of eyewitness memory. While they admit the model is still in its infancy stage, they identify three functions necessary for developing a "good" theory in this area:

(a) it will provide a basis for our judgments of how best to present expert testimony in courts regarding eyewitness memory; (b) it can guide hypotheses-testing research which compares and contrasts the lay juror's hypotheses with empirical results regarding eyewitness matters; and (c) it might represent a useful level of analysis for examining perceptions of others' memories in extra-legal situations where matters of memory credibility may have significant social implications (p. 53).

In summary, despite the long-standing interest in the reliability and accuracy of eyewitness testimony, there are a number of areas in which scientific knowledge of eyewitness testimony and common sense interpretations appear to differ. While some efforts have been made to distinguish the degree to which these differences exist, little has been done to describe the influences these differences might have on jurors', judges', and/or lawyers' perceptions of an eyewitness' testimony. Furthermore, most of the research conducted in this area has focused primarily on discrediting the notion that intuitive

knowledge is reliable rather than attempting to examine the degree of reliability of such knowledge. If the concept of intuitive knowledge has prevailed in the courts for hundreds of years, should we infer that since science has found some discrepancies, the concept is invalid? A working knowledge of memory processing is needed to address this question. A brief overview of the processing factors involved in memory recall and recognition will be presented in Chapter V.

With the growing acceptance of experts in our courts and continued reliance on eyewitnesses, the distinctions between reliable and unreliable testimony need to be made more explicit. The understanding of such variations in knowledge between experts and lay persons could have obvious implications for deciding when and if experts should be permitted in court and under what conditions an eyewitness' testimony can be considered reliable. This may involve the development of some sort of pre-screening test which can provide probability estimates of an eyewitness' chances of performing accurate recall or recognition tasks (see Edwards, 1941; Hoffman & Kagan, 1977; Hosch & Platz, 1984). One method for understanding how and when an eyewitness' testimony can be considered reliable is based on recognition/recall strategies. Before discussing recognition/recall strategies, some of the variables and concepts which have been found to affect the accuracy of eyewitness memory will be reviewed.

CHAPTER IV

BUT YOUR HONOR, I'M CERTAIN IT WAS HIM...HIS EYES!

This chapter summarizes some of the conflicting findings found in the eyewitness literature on how various eyewitness identification and testimony factors can affect the reliability and accuracy of an eyewitness' testimony. The review will serve to illustrate the complexity of conducting research in this area and will demonstrate that the scientific evidence available to date is at best only tentatively conclusive. Therefore, the issue of whether or not knowledge about eyewitness issues is a matter of common sense has not been resolved.

Some of the factors involving individual eyewitness characteristics which have been studied to date include: stress (Deffenbacher, 1983; Mueller, Carlomusto, & Marler, 1977; Siegal & Loftus, 1978), age (Ellis, Shepherd, & Bruce, 1973; Goodman, 1984; Goodman & Reed, 1985; Yarmey, 1984; Yarmey, Jones, & Rashid, 1985), perceived physical attractiveness, or likeableness of the eyewitness by the jurors (Garcia & Griffitt, 1978; Going & Read, 1974; Shepherd & Ellis, 1973), political frame of reference (Edwards, 1941), race of witness and race of criminal (Brigham & Barkowitz, 1978; Malpass & Kravitz, 1969), the eyewitness' intellectual and educational levels (Loftus, 1979), confidence of the eyewitness (Deffenbacher, 1980; Einhorn & Hogarth, 1978; Wells, Lindsay, & Ferguson, 1979), and emotional state of the eyewitness (Bower, 1981).

Factors studied involving the event witnessed (inter- and intra-eyewitness factors) include: violence involved in an event (Clifford & Scott, 1978; Kramer, 1984; Kuehn, 1974), duration of event (Laughery, Alexander, & Lane, 1971; Leippe, Wells, & Ostrom, 1978), number of perpetrators seen (Clifford & Hollin, 1981), cross-racial identification (Lindsay & Wells, 1983; Malpass & Kravitz, 1969; Malpass, Lavigueur, & Weldon, 1973), training or experience of the eyewitness with regard to eyewitness issues (Clifford, 1976; Tickner & Poulton, 1975) and gender differences (Clifford & Scott, 1978; Ellis et al., 1973; Going & Read, 1974). And finally, factors studied involving the questioning and pre-trial eyewitness identification procedures include: fairness of a photo spread or line-up (Brigham, 1980; Egan, Pittner, & Goldstein, 1977; Loftus, 1975, 1979; Malpass & Devine, 1983), and questioning and/or status of the interviewer (Hollin, 1981; Read, Barnsley, Ankers, & Whishaw, 1978; Read & Bruce, 1984).¹

The conclusions drawn from these studies have seldom been consistent, despite a number of attempted replications. A thorough discussion of all the studies is well beyond the scope and purpose of this review. For illustrative purposes, however, a few factors will be reviewed.

¹For other more complete reviews of the literature in these areas, see Clifford & Bull (1978), Loftus (1979), or Yarmey (1979).

Individual Factors

While stress can impair one's performance (see Berkun, Kern, & Yagi, 1962; Siegal & Loftus, 1978), it is not clear how much stress or anxiety one can handle before an eyewitness becomes less efficient at recognition. Loftus (1979:156) remarks, "people who are generally anxious...tend to make slightly worse eyewitnesses than those who generally are not."

Sex and identification is another area in which the literature has produced conflicting results. While appearing to represent an unambiguous determinant, several studies have shown that females perform better as eyewitnesses than males (see Ellis et al., 1973; Going & Read, 1974), while others have demonstrated the opposite relationship (Clifford & Scott, 1978), and still others indicate there are no gender differences (McKelvie, 1976).

Another subject variable which has been found to influence an eyewitness' ability is age. The general consensus is that older children have better memories than younger ones (see Ellis et al., 1973; Kagan, Klein, Haith, & Morrison, 1973). As Loftus (1979:159) notes, however, it has not been determined whether this is indeed true or whether an older child is simply less likely to guess when uncertain. Loftus suggests that a longitudinal study is needed to clarify the issue. However, she notes that unless one can reliably control for maturation effects and other intervening variables, this does not appear to

be a very viable solution to the problem. What perhaps is needed is to design studies which properly test the issue under both laboratory and *in situ* conditions. This will be discussed in the final section of the thesis.

Other studies (e.g., Schaie & Gribbin, 1975; Smith & Winograd, 1978; Yarmey, 1984) have demonstrated that the older we get (60 and over), the more our ability to remember witnessed events declines. But, as Baltes and Schaie (1974) observed, such observations do not hold true for all aging people. In fact, they suggest that this may be nothing more than a myth. Somewhat surprisingly, little research has been conducted to date on the recall and recognition abilities of older citizens when serving as eyewitnesses. One exception, however, has been the work done by Yarmey and several of his colleagues at the University of Guelph in Ontario.

While the relationship of age to recall/recognition² ability

² It is perhaps worth indicating, at this point, that there is a distinct conceptual difference between recall and recognition. The ability to recognize a face is generally believed to be 'easier' than to recall a face (Yarmey, 1979). Recall is the production of a response, the process of storing and retrieving information from memory, while recognition simply involves deciding, from a set of stimuli (i.e., photographs), which one is correct. Unlike recall, recognition does not involve a search and retrieval process (for a more detailed discussion see Yarmey, 1979). A number of studies have been conducted showing that under neutral experimental conditions, subjects have exceptionally high (+90%) recognition accuracy (see Standing, 1973; Standing, Conezio, & Haber, 1970). Loftus (1979) devotes a chapter to a discussion of factors which can affect an 'eyewitness' ability to recognize a face. Most of the factors deal with external processes or situations such as cross-race, nature of photospreads and/or lineups. Recall, or the retrieval stage, as it is sometimes referred to, can also be affected by a series of factors such as question wording and confidence in

may be unclear, age is considered important in another way. Loftus (1979:160) notes that some researchers are investigating how age may be related "to the susceptibility of a witness to potential biases and misleading information." The evidence yields somewhat equivocal and tentative conclusions (see Loftus, 1979). One of the few facts which does seem to be supported in the literature, however, is that young children tend to recall less information about witnessed events than adults (Ellis et al., 1973; Goodman, 1984; Melton, 1981; Yarmey, 1984); that they make many more false identifications than do adults (Carey, Diamond, & Woods, 1980; Chance & Goldstein, 1976; Diamond & Carey, 1977); and that children may be more suggestible to questioning than adults (see Goodman & Reed, 1985; Yarmey, 1984; King & Yuille, 1986, for findings supporting the view that children are more suggestible; and Marin, Holmes, Guth, & Kovac, 1979; Johnson & Foley, 1984, for findings which do not support the belief that children are any more suggestible than adults). The courts, though, have seldom called upon children to act as eyewitnesses and, because of our laws, have never asked children to serve as jurors. But, with the growing concern about child abuse, the situation may change quickly as children will be called to testify in court. Furthermore, in light of the current growing evidence that children may not be as suggestible or as fallible as once generally viewed, and if the criminal justice

²(cont'd) one's recollection. Exactly how the processes affect one's ability to recall, according to Loftus (1979), is generally not well understood. The subject of recall and recognition will be further discussed in Chapter V.

system begins to employ some of the questioning techniques and procedural safeguards recommended in the Badgely Report (1984), we will probably not only have more children being called into court to testify, but they will also be viewed with greater credibility than they have in the past.³

The belief that individuals (e.g., police officers, convenience store operators) can be trained to improve their recall and recognition abilities represents another area which has been investigated. Loftus (1979) points out that lay people seem to believe that a trained observer will give a more accurate eyewitness account than an untrained person. Based on the research reviewed, however, Loftus suggests that "our intuitions in this area" are "dead wrong" (p. 165).

Until fairly recently, most of the studies which attempted to test this notion employed a feature oriented training procedure⁴ for the trained group(s) and no training for the

³ Angelomatis (1986) presents a very comprehensive review of child witnesses and their role in the criminal justice system. She concludes by essentially agreeing with the Canadian Badgely study, published in 1984, which reported that children have been the victims of the criminal justice system. Badgely further concluded that it is time to change this situation especially since there is a growing body of research to support the view that children are more reliable as (eye)witnesses than the courts have tended to believe.

⁴ Although the interest in facial recognition (and recall) has long been in existence, it was not until 1971 that a Canadian by the name of Jacques Penry formulated the principles into a theory and developed a technique for facilitating recognition. Unfortunately, as seems to be the case with many theoretical paradigms, no empirical evidence was presented for the validity of the system (see Woodhead, Baddeley, & Simmonds, 1979). Penry's strategy emphasizes teaching individuals, or encouraging witnesses, to focus on specific facial features such as nose,

controls. Tickner and Poulton (1975) found no significant difference between 24 trained police officers and 156 civilians. While this finding may be somewhat of a surprise, Tickner and Poulton did not appear to control for the level of experience an officer may have had. They did not determine whether any of the civilians may have had some form of indirect training, nor did they take into account the fact that officers are trained to be alert for criminal activity while on the street and lay persons are not. It may well be that should a lay person and a police officer happen upon a crime at the same time, the officer will have better recall since he/she is trained to be on guard for such events.

In a somewhat more methodologically sound study, Woodhead et al. (1979) used the feature oriented training system to train 26 men over a 3-4 day period. When this group was compared to a control group, it was found that recognition training did not improve their ability to recognize faces. This may not be so surprising since, as Loftus (1979:166) notes, "never has any evidence been presented for the validity of a feature-oriented training system."

A more recent training approach involves a holistic or gestalt approach (see Carey & Diamond, 1977; Winograd, 1976) which emphasizes focusing on personality characteristics (e.g., charm, humor, rudeness, intellect, etc.) rather than specific facial features (e.g., hair, nose, eyes, chin, & brows).

^ (cont'd) eyes, mouth, facial markings, etc.

Winograd (1981:181), among others, argues that since the holistic method requires a deeper level-of-processing (Craik & Lockhart, 1972), facial recognition ability is improved because it leads "to a more extensive scan of the face and, as a consequence, to more features being encoded than if one is deciding if the person is a male or has a large nose." Horton and Mills (1984) argue, however, that the method is less dependent on its technique than it is on the contextual information which is available. Namely, if facial recognition takes place in the same or similar context as witnessed then recognition is improved (see Daw & Parkin, 1981, for a similar observation based on empirical evidence).

Evaluations of feature oriented techniques have tended to be inconclusive (see Davies, 1983; Davies et al., 1978; Laughery & Fowler, 1980). In fact, Yarmey (1979:150) notes that "relatively little empirical research judging its (facial composite technique) effectiveness is available." Similarly, for the holistic training strategy, there appears to have been little empirical work done, with the exception of the work undertaken in England, primarily at North East London Polytechnic by Baddeley, Patterson, and Woodhead.

Baddeley and Woodhead (1983) have tested the holistic approach as a possible way for eyewitnesses to improve their recognition of faces. They concluded that, as is the case with the feature oriented training procedure, the holistic strategy does not appear to be any more effective in assisting

eyewitnesses to have better recognition ability. While the results evaluating the two training strategies have been somewhat less than impressive, there has been no attempt to create a stronger theoretical structure within which to interpret these findings. Craik and Lockhart's (1972) level-of-processing model appears to be fraught with definitional and operational problems (Horton & Mills, 1984). At least one investigator in the field has called for "some development with science replacing intuition in the selection of key features and descriptions" (Davies, 1983:120).

In a recent article by Wells and Hryciw (1984), it is suggested that there is an interaction between encoding and retrieval which results in neither facial recognition technique (i.e., feature vs gestalt) being better than the other. They propose that rather than question which technique is better, it might be more appropriate to ask what information is being processed? For example, based on their empirical observations, they concluded that recognition of faces favors an intercomponent (e.g., distance between components, relative size of components) retrieval process while reconstruction of faces from features favors an intracomponent distinction (e.g., symmetry, shape). Verbal recall of faces favors neither the inter- nor intracomponent retrieval process. What is important is not to try and determine which processing technique (holistic versus feature distinction) is more useful, but to develop a language of processing "that specifies components and uses an

intracomponent versus intercomponent distinction" (Wells & Hryciw, 1984:343). Regardless of how researchers have attempted to explain the encoding and retrieval processes, the verdict still appears to be out as to whether training can improve the reliability or accuracy of an eyewitness' account and whether one training technique is superior to another.

The final factor to be discussed involves the level of confidence that eyewitnesses have in their testimonies. Studies examining the relationship between level of confidence and accuracy of memory have been plagued with mixed results. Generally, it has been found that there is little or no relationship between eyewitness accuracy and one's level of confidence (see Brigham, 1980; Buckhout, 1974; Deffenbacher, 1980; Wells, Ferguson and Lindsay, 1981; Wells, 1978; Wells & Murray, 1984). It has not been proven, however, that one's level of confidence is not unimportant in certain situations. For example, Yuille and Cutshall (1986) observed that accuracy and confidence in eyewitness testimony may be situation specific. For those witnessing a salient and unique event, their level of confidence in their testimony may well be reflected in the degree of accuracy of their recall (see Sales, Elwork, & Alfini, 1977). The one fact that seems clear is that a high level of confidence should not be taken as a guarantee of anything. An interesting recent exception to this general belief has come from a rare *in situ* study conducted by Yuille and Cutshall (1986). Their findings regarding an eyewitness' recall and

recognition abilities in a number of instances were not consistent with those found under laboratory conditions. They found that "most of the witnesses...were highly accurate in their accounts and this continued to be true five months after the event" (p. 26).

Inter and Intra Eyewitness factors

Is there any truth to the old saying: "they all look alike to me?" Cross-race eyewitness identification represents another area of investigation which has not had the scientific support in the literature one might expect.

Wall (1965) felt that the courts are generally sensitive to the possibility of misidentification when eyewitnesses differ from suspects in racial origin and skin color. He does not, however, mention whether the courts, as a rule, instruct the jurors about the situation. In terms of awareness that cross-race identification is difficult, Yarmey and Jones (1983) found that (94%) experimental psychologists believed this to be true, followed by law students (81%), and legal professionals (63%), with citizen jurors appearing to be the least aware of the possibility (43%). Based on their results, it would appear that it is important to instruct the jury about the possibility of eyewitness misidentification when a racial difference exists between the suspect and the eyewitness.

The previous observations, however, have not been universally accepted. Recently, Lindsay and Wells (1983:219)

argued that the belief that cross-race eyewitness identification is less accurate than same-race identification is "based on an oversimplified view". After reviewing nearly twenty studies on cross-race eyewitness identification, they show how inconsistent the data have been in supporting the hypothesis. They conclude, however, "the most consistent finding is that white witnesses identifying white faces produced the highest rate of accuracy. The order of the remaining race of witness and race of face combinations is not clear" (p. 223). Therefore, they suggest that not only is more research necessary, but the criminal justice system is in need of guidance with regard to the issue of cross-race eyewitness identification. Recently, Brigham and Ready (1985) conducted an interesting study on the effects of own-race bias in line-up construction. Their findings raise further speculation about cross-racial identification. They found that the race (i.e., black vs. white) of the line-up constructor tends to display own-race bias when constructing a line-up by being more selective about own-race photos than other race photos. This bias can reflect itself during a cross-racial identification procedure by an eyewitness.

Pretrial Factors

The problem of accurately recalling what one saw can apparently be further complicated by the manner in which the eyewitness is questioned. Buckhout, Figueroa, and Hoff (1975), for example, using 141 students who witnessed a simulated crime and who were then tested for immediate recall and tested again

seven weeks later, found that by biasing the instructions for recall, they could affect the response patterns of the eyewitnesses. They argued that improper suggestions made to identifying eyewitnesses probably accounts for more miscarriages of justice than any other factor. Loftus (1979) similarly found that slight changes in the wording of a question (see question number 4 in Appendix A) can affect the response that an eyewitness provides.

Using a similar experimental testing format, Yarmey and Jones (1983) were not able to replicate Loftus' findings. They question whether the lack of concordance with Loftus' findings may be attributable to the fact that "research done in academic settings...is not necessarily relevant to the 'real world' of the courts" (p. 29). They conclude that more research testing of non-academic subjects is needed to clarify the issue.

Summary

In relation to what appear to be fundamental and uncomplicated eyewitness identification factors (e.g., age, gender, race, etc.), the literature reveals that the evidence regarding the exact effects of the variables is inconclusive. Why? Loftus (1979) suggests that perhaps the problem lies in the manner of investigation. Rather than simply examining individual differences, researchers should perhaps examine the relevance or importance the subject matter has for the eyewitness.

It can generally be concluded that as with other areas of perception and memory research, the factors that affect the reliability of eyewitness testimony are complex. The potential for research in this area has only been touched upon.

Part of the reason for the limited consensual explanatory power of research concerning specific factors rests with the fact that recall and recognition theory has been limited. The results have been descriptive in nature and they tend to have a negative emphasis (see Yuille, 1980). Furthermore, in few of the studies reviewed are the objectives discussed with respect to some underlying theory or paradigm. Nevertheless, strategies continue to be developed in an attempt to assist the police as well as other areas of the criminal justice system in enhancing the reliability of an eyewitness account. Wells (1978:1547) comments: "(c)learly, the criminal justice system will never eliminate eyewitness testimony altogether." Therefore, we can only try to reduce the chances of mistaken identification and wrongful conviction. One way of doing this is to educate people and the other is to continue exploring memory processes. As Loftus (1984:26) explains:

psychologists need to learn more about the ideas that the rest of us have about the operation of human perception and memory. When these ideas are wrong, psychologists need to devise ways to educate us so that the judgments we make as jurors will be more fully informed and more fair.

MEMORY PROCESSES: ENCODING AND RETRIEVING

In this chapter, a brief discussion about some of the current literature concerned with encoding and retrieval processes. Knowledge about these processes is seen as fundamental to understanding how we store and retrieve information. The overview is intended to provide a basis for examining whether there is a difference between what is intuitively known about eyewitness issues and what has been reported through scientific research.

Encoding/Acquisition

Encoding "is the process of transforming physical stimulus energies impinging upon the senses of an observer into memory codes" (Yarmey, 1979:58). It is a complex neurological process which enables us to perceive and remember what we see. However, as Ellis (1975), and Chance and Goldstein (1976) have observed, encoding does not appear to be mediated by verbal processes. Ellis (1975:13) notes that "language is too imprecise to be of much use in acquiring the subtle information regarding each face we encounter." Rather, it appears that the time (duration) and attention (level of awareness) spent looking at a face are more important determinants of face recognition. What actually occurs during the time spent looking at a face has been much debated. Some argue, for example, that encoding is a feature oriented

procedure (see Bower & Karlin, 1974; Ellis, 1975, 1981, 1984) while others have tried to demonstrate that encoding is more of a holistic process (see Patterson & Baddeley, 1977; Wells & Hryciw, 1984; Woodhead et al., 1977). The two processes were discussed earlier in Chapter IV.

Yarmey (1979) notes that encoding may be either 'selective' or 'elaborate' depending on the circumstances of the event. Horton and Mills (1984), in their review of the encoding literature, point out that the direction in which encoding research has gone has been influenced by the seminal work of Craik and Lockhart (1972).

Craik and Lockhart's work focused on identifying the levels-of-processing framework. They attempted to show that memory consists of a hierarchy of processing levels through which new information is passed. Each level of the process (they do not identify how many levels there are) supposedly requires a deeper level of analysis. That is, the more one focuses on the information at hand and processes it, the greater the resistance to forgetting. They felt that the deeper the process, the better the memory performance. And while some of the literature (e.g., Warrington & Ackroyd, 1975; Winograd, 1978, 1981) continues to support the prediction that trait-judgment (semantic) encoding leads to better memory performance than nonsemantic (feature) encoding, the levels concept continues "to be plagued by the lack of an independent definition of depth and by continued demonstrations of context dependencies" (Horton & Mills,

1984:365). Since it is not possible to determine independently the rate of processing, a rate of forgetting cannot be predicted. The general problem in explaining information processing has also been reflected in the eyewitness literature since no clear theory exists to explain how we process and retrieve visual information.

Based on the results from four experiments which examined how faces are remembered, Winograd (1981) concluded that the "distinctiveness" (e.g., different physical settings) issues are less important than the "elaboration" process which suggests that encoding is facilitated through broader feature sampling. For example, if "the fat man read the sign" is elaborated to "the fat man read the sign warning thin ice", recall of fat is facilitated because the phrase "warning thin ice" reflects on the significance of the target word "fat" (Horton & Mills, 1984:367). Horton and Mills (1984) point out, however, that the elaboration hypothesis is also fraught with problems since the concept is usually intuitively defined rather than being based on an operational definition. Its complement "distinctiveness" has a similar operational problem. In fact, Horton and Mills note that the two concepts are often used interchangeably. Ellis (1984:33) suggests that there "appears to be an absence of critical experimental evidence on the question of context and identification accuracy." As Kerr and Winograd (1982:603) note, "it is difficult to separate the amount of elaboration from the distinctiveness or uniqueness of the resultant memory trace."

Wells and Hryciw (1984:338), however, argue that the debate between trait- and feature-encoding operations has less to do "with the number of features processed or their distinctiveness, but instead with the match or mismatch between encoding operations and retrieval operations." They suggest that when the cognitive retrieval process is similar to that of the encoding process, then retrieval is better.

This brief overview of memory acquisition has served to illustrate the complexity of trying to explain the neurological processes underlying memory encoding. The problem of explaining how we store information can be further complicated by asking a phenomenological type question. How do we know, for example, when the "phenomenal reality" (Porteous, 1977) is a veridical representation of objective reality (what is really there)? The distinction between neurological definitions of perception and social perception raises issues which are well beyond the scope of this chapter and study, but the point does serve to highlight the difficulties researchers have experienced while studying issues of perception.

The study of perception and encoding in psychology is closely aligned with the constructs of motivation and information retrieval. While we are able to attend to and remember certain events in our environment,¹ this behavior is

¹Porteous (1977) notes that our environment can be further divided into "personal space", "home base" and "home range", each of which can have differential impact on our ability to perceive as well as our motivation to store information.

dependent on a great number of processes which we exercise to remember some experiences and not others. In the next section, some of the basic principles of information retrieval will be reviewed.

Retrieval

In the brief overview outlining how we encode information, it was suggested that the process still remains unclear. Therefore, it may not be too surprising that the explanations used to describe how we retrieve information from memory are also fraught with ambiguity. Tests of memory recovery mechanisms, of the original event, whether it is a car accident, a murder, or simply a meeting of new people at a party, reveal that various preceding, present, and post-event experiences can dramatically affect what information becomes available for retrieval. It is still unclear, however, how the various experiences will affect recall and recognition.

Ellis (1984), among others, has noted that retrieval or remembering stored information involves either recall or recognition. An understanding of the differences between these two concepts is important when examining issues related to the reliability of an eyewitness' memory.

Recall

Yarmey (1979) notes that stored information is of little use unless it is accessible to recall.² A common example of an information retrieval problem is the tip-of-the-tongue phenomenon (see Yarmey, 1973). In order to come up with a forgotten name, place, or description, we usually go through some systematic search procedure referred to as "generic recall". We can also use imagery or verbal association to facilitate recall (Yarmey, 1973). Recall appears to be somewhat more difficult for nonverbal information (e.g., facial recall) than for verbal information (Christie & Ellis, 1981). As reviewed in Chapter IV, various techniques have been designed to facilitate nonverbal recall. Two of these methods commonly employed by police departments include the Photofit kit and Identi-Kit. The kits are commercial composite packages which are used to assist in the reconstruction of a suspect's face by using different strategies which focus on building the face according to its key parts (e.g., nose, eyes, ears, mouth, etc.) (see Davies, 1983, for a review of the various composite techniques). Malpass and Devine (1981) observed that "guided

²Recall is a complex process involving several stages, including sensation (something has to be seen before it can be recognized), attention (after the object or person is seen, the witness has to be mindful of the event), and memory (after the stimulus has been witnessed, it is stored and may be activated when recollection takes place).

The three basic phases of information processing, as identified by Yarmey (1979), include: encoding, storage and retrieval. Within each of the three phases, a number of complex interactions occur which affect one's ability to retrieve information.

recollection" was better than non-guided recollection.

Although recall is an important aspect of information retrieval, it is often one's ability to recognize a face that can play a major role in determining the fate of a suspected offender.

Recognition

While recognizing a face under laboratory conditions seems to be an easier process than attempting to recall one (Ellis, 1984), the results have not been replicated as successfully in real life settings (see Goldstein, 1977; Shepherd & Ellis, 1973; Yuille & Cutshall, 1986). Given this discrepancy, caution must be exercised when attempting to determine the reliability of such evidence, especially when it is presented in court. Inaccurately assuming that recognition is usually quite reliable, or at least more so than recall, can have serious implications for the accused, the Court and the jurors. Therefore, this area warrants more careful examination.

Recognition memory, according to Mandler (1980), is essentially based on a dual-process model of retrieval which includes the concepts of familiarity (or "perceptual fluency" as referred to by Jacoby & Dallas, 1981) and retrieval of study context. Horton and Mills (1984) note, however, that while researchers in the area have waited a long time for the development of the model, the retrieval process still requires further clarification with regard to the perceptual processes of

learning and memory. They further note that while "there is a growing consensus that the retrieval information provided in recognition is independent of the information provided in recall" (p. 388), it has not been clearly determined to what extent recognition and recall are mutually exclusive. This view has also been supported by Ellis (1984) who notes that while there has been a long-standing interest in (face) memory, the literature to date has been limited and many of the issues surrounding recall and recognition processes remain unclear.

A further example of the problems that confront the understanding of recognition relates, in part, to the type of research done in this area. Ellis (1981) asserts that not one of our present models³ relating to how faces are processed has been investigated properly. It is well known (see, e.g., Bahrick, Bahrick, & Wittlinger, 1975) that we have an excellent capacity for facial recognition, yet most rote recognition devices (e.g., Identi-Kit, Photofit kit, etc.) have been only moderately successful in assisting recognition. Ellis (1981) suggests that this is due primarily to the fact that such techniques rely on

³There are three main theories of visual recognition: Template matching, Feature matching, and Schema matching. Template matching involves storing a direct or explicit image of the experience. The theory can trace its origins to an ancient Greek technique called the Method of Loci. The Feature method is based on the theory that encoding information involves storing distinctive features rather than holding explicit images of the experience. The Schema matching theory, on the other hand, maintains that an abstract representation of the face is stored and is later recognized when it is compared to the schema and judged to belong to the abstract image. (See Adams, 1976, for a more detailed review of the theories as well as a discussion about some of the general problems with each of the theories).

artificial faces as stimuli. Based on a review of face recognition techniques, Ellis (1981:197) concludes that we "still know very little about the events involved in becoming increasingly familiar with a face and what this might imply for theories of face recognition." Read (1979), for example, observed that previous research may have underestimated how mental rehearsal of a face can facilitate later face recognition accuracy.

Given the years of investigation and different explanations for the various aspects of memory, it is little wonder that we have not been able to resolve the issue of whether scientific knowledge is any better than intuitive knowledge for assessing eyewitness testimony. Our understanding of retrieval processes still requires considerable refinement (see Ellis, 1981; Horton & Mills, 1984; Wells & Hryciw, 1984). We should, therefore, not be so eager to reject the viability of intuitive knowledge. Further investigation and clarification are needed.

Another issue which confronts the study of scientific versus intuitive knowledge is related to the theoretical approach traditionally employed when studying the validity of eyewitness testimony. Twining (1983:255) argues that most research is based on the evidentiary model which he feels "presents an artificially narrow definition of the problem." This model views the problem of eyewitness reliability as primarily one of evidence in the legal sense. As an alternative, Twining proposes the use of an "information model" which "substitutes the notion

of information for that of evidence, and which takes a broader view of legal processes than the problem of misidentification" (Clifford & Lloyd-Bostock, 1983:290).

Along similar lines, Hollin (1982) suggests that the problem of understanding eyewitness testimony in a legal setting is due, in part, to the fact that many of the psychologists involved in eyewitness research still limit their research to perceptual and memory issues which have had limited practical application in the legal realm. Hence, a number of vital aspects about memory and cognition have, until recently, been overlooked. Instead of focusing primarily on individual factors, such research should also address situational and social factors, and legal considerations. Practically, this broader approach makes good sense (see Hollin, 1982). It is not difficult to see why research to date has been of limited value, beyond answering the specific needs of psychologists.

An example in which a belief (as opposed to a theory) about memory reconstruction has been practically applied is Penry's model for facilitating facial recall. Penry's theory advocates that the best way to remember a face is to treat it as a collection of features. Breaking the face down into its component parts allows for better discrimination among faces and enhances recall of faces later on.⁴ Penry (1971:13) argued that

⁴Wilson (1975) notes that while the face is not the only clue to one's identity, its involvement in emotional expression and natural visibility makes it a more practical and ideal identifier. Some even argue (e.g., Ellis, 1975; Winograd, 1978; Yin, 1969) that we have evolved a special face processing

"the reliable clues to facial identity are to be found in the basic formation, first of the face-outline as a whole, then of its separate parts." This conceptualization appears to make sense given that people when asked to describe another person, usually begin by noting that person's specific features - eye color, type of nose, scars, or any other anomalies.

To apply his theory of recall, Penry invented the Photofit kit (for further discussion of the kit, see Davies, 1983; Yarmey, 1979: 147-152). Investigations attempting to verify the composite theory, however, have tended to be inconclusive and even contradictory at times (see Mauldin & Laughery, 1981). Cohen (1973), for example, notes that the Photofit kit does not answer the question of eyewitness reliability and validity, while Davies et al. (1978) raise a number of issues about the efficiency of the Photofit system. The critiques, however, are generally based on evidentiary and procedural issues; few discussed the processes that individuals go through in recalling events or faces, and how these processes might affect the results (see Clifford & Hollin, 1981). A recent study by Flin and Sheperd (1986) provides some tentative empirical support which shows that eyewitnesses are better at recalling gross characteristics (e.g., height, weight, distinguishing features, etc.) than minor details.

⁴(cont'd) mechanism. General support for the notion has come from studies done with individuals suffering from prosopagnosia - the inability to recognize faces.

In partial response to this problem, Woodhead et al. (1979) have been primarily responsible for pioneering a new perspective on recognition which focuses on the importance of considering the face as a whole rather than selecting individual facial features. To date, the empirical evidence for this framework of recognition has been limited, but what is available appears to be promising.

In summary, while there appears to be a consensus that people are better at recognition tasks than recall tasks, it is not clear which training or encoding strategy is better able to improve recognition. Part of the confusion has to do with the lack of empirical research in the area, as well as the lack of evidence of a sound theoretical structure for the training rationales.

It is interesting to note how we have tended to take eyesight basically for granted, relying on it to help formulate reality. Yet when we put eyewitness testimony to the test, we are left with the fact that "it is all in the eye of the beholder" and subject to numerous considerations.

Eyewitness testimony will continue to be of vital importance in convicting and jailing people - even if falsely from time-to-time. As long as we must rely on such strategies, then perhaps trying to identify its mediating elements can help to improve its reliability. Understanding the influences that judges and experts can have on a jury represents one area that

deserves consideration. The role and influence of the "decision-making participants" (Konečni & Ebbesen, 1981), namely, the trial judge, the jury, the Crown and defence counsels, and experts on eyewitness identification and testimony will be the focus of the next chapter.

JUROR PERCEPTION/EVALUATION OF EYEWITNESS TESTIMONY

One of the most famous cases of wrongful conviction occurred in 1896 and involved an individual named Adolf Beck. Based on the independent testimony of ten women, whom he had allegedly swindled for their money, Beck was given a sentence of seven years. After several years, he was released because he was able to prove that he had been elsewhere at the time of the crimes. In 1904, he was again convicted on eyewitness testimony evidence for committing a similar crime. Fortunately for Beck, however, another similar offence was committed while he was in jail. On this occasion, the police managed to apprehend the offender who also admitted to committing the other offences for which Beck had been originally convicted.

Was the misfortune of Adolf Beck attributable to the poor judgment on the jury's part in its assessment of the reliability of eyewitnesses (see Dillehay & Nietzel, 1985; Greer, 1971)? Was it due, in part, to insufficient instructions about eyewitness credibility by the trial judge and/or defence counsel (see LRC, 1980; "Appeal judges," 1985)? Did the questioning pattern of the prosecution bias the jurors' interpretation of the eyewitness evidence (see Loftus, 1975)? Or was it some other system related variable which enhanced Beck's chances of being found guilty? These issues were never addressed in Beck's case. This case, however, is not an isolated example of what can happen when

jurors are used to assess the reliability of an eyewitness' testimony. Concern about this issue is reflected in the abundance of literature which has attempted to explain how jurors evaluate eyewitness testimony and why jurors occasionally make incorrect decisions.

For a number of criminal offences, trial by jury may be compulsory, available to the accused, or requested by the Attorney General under section 498 of 'the Canadian Criminal Code.' In a number of such instances, a jury's decision may rest, solely or in part, on the testimony of one or more eyewitnesses. An eyewitness' testimony, then, becomes a very important determinant of the case outcome. At the turn of the century, however, it had already been observed that not only were most eyewitnesses unreliable, but that most people are poor judges of the credibility of such testimony. There have been

There are three types of indictable offences, two for which an accused can be tried by a judge and jury. The first condition involves those offences which fall automatically under the jurisdiction of the superior court (e.g., treason, murder, bribery, and sexual assault) for which trial by jury is compulsory. The second type involves election type offences where the accused has the right to decide whether he/she wishes to be tried by judge and jury, by a magistrate (or Provincial Court judge) sitting alone, or by a County (or District) Court judge sitting either alone or with a jury. A third scenario in which a trial by jury can occur includes certain *hybrid* or *mixed* offences (e.g., theft under \$200, dangerous or impaired driving, and assault causing bodily harm) which can either be summary conviction type offences or indictable type offences. In such cases, it is left to the Crown's discretion as to how the offence will be proceeded with. If the Crown decides to proceed as an indictable offence, then the accused has the choice of deciding how the offence should be tried. Although there are many conditions under which trials by jury can be held, Brannigan (1984) notes that, in Canada, there has been a decline in the number of such trials.

numerous studies in more recent years which have explored how system and estimator variables can affect eyewitness testimony. Some of these variables were reviewed in Chapter IV.

In this chapter, some of the literature on juror evaluation of eyewitness testimony will be reviewed in an attempt to illustrate the need to understand how and under what circumstances jurors might reach the incorrect decision about a suspect's innocence or guilt because of the conditions and events surrounding an eyewitness' testimony. First, however, a brief overview is needed of the key actors who might be involved in a case involving eyewitness testimony. These individuals can include the jurors, the trial judge, an expert on eyewitness identification, and the Crown (prosecutors) and Defence counsels.

The Jury

The practice of allowing a selected group of persons to decide the credibility and reliability of an accused has a long history (see Moore, 1973). Henry II (1154-1189) introduced the forerunners of the modern jury system, the Grand and Petit assizes. The Grand jury was the body responsible for criminal cases. It consisted of a body of *men* summoned by the King's officers to discover and charge all those who were caught violating the law. Although this system has been abolished in Canada, its "off-spring" is still around today - the preliminary

inquiry. The preliminary inquiry is used to perform essentially the same function as that of the Grand jury (see LRC, working paper No. 27, 1980).

In the pursuit of offering fair and equitable justice, it was felt that a jury which was composed of twelve persons selected from a cross-section of the working class community would ensure a fairer and better deliberation process.² Another rationale for using a jury is that it requires citizen participation and thereby encourages the development of a sense of civic responsibility as well as interest in and respect for the law. It should be noted, however, that in many cases, juries are comprised predominantly of females. Reid (1981) suggests that this is due to the fact that women are less frequently excused for professional reasons.

Another interesting observation, in Reid's review of the court system, is that although people as young as eighteen (legal voting age) are eligible for jury duty, most juries are comprised of jurors who are substantially older. This raises an interesting question about whether the exclusion of the younger sector of the population can prejudice a jury since a significant proportion of those appearing in court for serious crimes fall into this age group.

²The number of individuals on a jury panel is not based on any factual rationale. Rather, it was merely considered an appropriate size in order to have a representative sample from the community (LRC, working paper No. 27, 1980).

Age is not the only factor where jury selection bias is evident. There are a number of legal 'safeguard' restrictions which can affect the final composition of a jury panel. Although a thorough exploration of these legal safeguard restrictions is beyond the scope of this study, one example will serve to illustrate the point.³ The British Columbia statutes indicate that in order to be eligible to serve on jury duty, one must have "attained the age of 18 years or more and not attained the age of sixty-nine or more", reside in the province where the case is being tried, and be a Canadian citizen (Jury Act, 1979). There are, however, certain conditions for exclusion and exemption from jury duty (see Appendix E). Furthermore, jury selection can be affected by a procedure known as Voir Dire (which literally means "to speak the truth"). Voir Dire is a procedure which allows the examination of eligible jurors prior to selection, the purpose being to identify those who might affect or prevent an unbiased judgment (Joiner, 1971).

In recent years, efforts have been made to refine and improve the jury selection process. A computer technique, for example, was used in the selection of the jury for the Mitchell-Stans Watergate trial (see Reid, 1981). Brown (1986) reports that of cases for which scientific jury selection procedures were used, a majority were won by the defence. He notes, however, that most of the "cases have usually been high

³Some general references regarding the relationship of jury composition and the assessment of eyewitness evidence will be made in the General Discussion section.

political cases where the charge was conspiracy, and conspiracy is a difficult charge to prove" (p. 242).⁴ Despite these efforts, there still exists considerable debate about whether the jury system is vital to the court or simply an antiquated idea. Reid (1981), for example, notes that a number of researchers have found that in mock jury studies, only one-third of the jurors could accurately recall the judge's charge (see, for example, Hervey, 1947),⁵ and that jurors sometimes misinterpret or reinterpret the facts of the case and/or instructions of the trial judge.⁶ Others, however, have argued that while it may be true that some individual jurors do not remember all the facts, when these individuals come together as a jury to deliberate and decide upon a case, all the facts are

⁴Interestingly, Hans and Vidmar (1982) found that after surveying a sample of comparable trials which did not use a scientific method for jury selection, there was no significant difference for the outcomes when compared to those trials which had employed the use of scientific jury selection. Based on the evidence he reviewed, Brown (1986:243) concluded "that scientific jury selection is not of much use (at least on felony trials)".

⁵Kennebeck (1975:246), writing as a former juror noted that in one traffic case, "he (the judge) read his greetings and instructions...from a printed card...when we went into deliberations, we were not entirely sure of the issues." He goes on to note how jurors, in the United States, appear to be taken for granted, and that the justice system must realize the important role they play. He comments that in order to ensure participation and willing involvement, the system must treat jurors with respect and as equals. Not to do this "can affect us (jurors) and, therefore, the quality of justice" (p. 249).

⁶The problem of misinterpreting or reinterpreting what one hears has, over the years, been studied by numerous psychologists. One of the early classic experiments investigating memory reconstruction was done by Carmichael, Hogan, and Walter (1932). In 1980, the Law Reform Commission (1980) found that 78% of the respondents felt that a collection of standardized instructions would be useful.

indeed recalled (LRC, working paper No. 27, 1980). This view fails to note, however, whether those jurors whose recall is in fact accurate are able to convince the other members that their recall is the correct one. In either case, the conclusion that can be drawn from the above observations is that jurors are only human and are therefore capable of making mistakes (see Eugenio, 1976). What needs to be determined, then, is the extent to which jurors make mistakes and under what conditions these mistakes are likely to occur.

Two final concerns worth noting include: (1) the effect of jury size, and (2) what degree of consensus among the jurors must exist to render a verdict. Considerable research has focused on the effect of jury size and outcome decisions (see Davis, Kerr, Atkin, Holt, & Meek, 1975; Hastie et al., 1983; Kalven & Zeisel, 1971; Saks, 1977, 1982; or see Brown, 1986, for a general review). In short, however, "the history of the jury provides few clear guidelines for current procedures and standards" (Hastie, et al., 1983:3).

Since it appears that trial by jury is not soon to be replaced, investigators need to explore jury decision-making in greater depth.⁷ How can we ensure that a jury is properly informed and that the jurors not only understand all the facts,

⁷Although the jury appears to be a dying institution in Canada, there are those who still espouse its virtues. Some lawyers have recently attempted to invoke the Canadian Bill of Rights in order to have their clients tried by a jury of their peers (Parker, 1977). As Parker (1977:279) notes: "trial by jury was supposedly guaranteed by the Magna Carta in 1215."

but can also accurately recall them during deliberation? The second part of this study (Experiment 2) attempts to address a few of the above issues as they relate to the jury decision-making process involving eyewitness evidence. The procedure employed is explained in the Methodology section for Experiment 2 (Chapter IX).

The Trial Judge

Some people envision a judge as a powerful individual, having great wisdom and commanding great respect. Some even suggest that judges live in an illusionary or mystical world, on a pedestal free from many human frailties. Others, however, would argue "that they are only human" and therefore subject to all the prejudices, hostilities and other human problems that color their opinions" (Reid, 1981:419). These views have been vividly illustrated in such recent movies as "And Justice for All" and "The Verdict".

Judges serve to act as the referees in a criminal trial. They should not be "for" or "against" a particular position or issue in a case. Their responsibilities include ensuring that the other courtroom players (the prosecutor and defence counsel) adhere to the proper procedures and 'play by the rules'. Judges are expected to maintain all the "checks and balances" in order to ensure a fair trial (Sales et al., 1977). In Canada and the United States, however, judges do not receive any specific

training to assist them in performing their apparent omnipotent role. According to Reid (1981), in many instances, they may not have practised law, or criminal law, specifically, for a number of years. Reid cites one study which found that many American trial judges had not even graduated from accredited law schools. Judges' Conferences and special training courses for judges are, however, regularly held in Canada, but it is not mandatory for judges to attend.⁸

In North America, judges are selected primarily on their perceived merits, past performance, and willingness to serve as a judge (Griffiths, Klein, & Verdun-Jones, 1980). Yet, despite their apparent status, most judges receive less income than an active lawyer. Thus, some have suggested that the best judges may not always be the ones who are appointed to the bench.

Judges, in Canada, usually instruct the jury on the law, the credibility of witnesses, and the difference between direct and circumstantial evidence, following all counsels' closing addresses to the jury. Although counsel can object to the instructions after they have been presented, there are no set guidelines as to how and about which specific issues jurors should be instructed regarding the credibility of an eyewitness. There are, however, a number of standard instructions judges will provide. They will, for example, instruct the jury that

⁸It is interesting to note that most European countries require that judges receive special training (Reid, 1981). In 1981 and 1982, a New Judges Training Program was held at the Park Lane Hotel in Ottawa. In 1981, 44 new judges attended, 30 from criminal court and 14 from family court.

eyewitness testimony is a form of opinion evidence and that such evidence has, in a number of instances, proven to be erroneous. The trial judge, however, may or may not instruct the jury about how certain characteristics of the eyewitness account may affect the credibility of that testimony. To illustrate, the judge may or may not tell the jury how certain situational factors relevant to the case (e.g., stress, age of the eyewitness, race of the accused or eyewitness, the prior use of a line-up or photo-spread for identification, etc.), may affect the credibility of an eyewitness' testimony. The degree to which the trial judge instructs the jury about such issues is primarily discretionary in nature.

Not only do judges not have any guidelines about how to instruct the jury, or to what extent the jury should be instructed, but according to some, when they do provide instructions about an eyewitness' testimony, these instructions are not always considered accurate or complete.⁹ This is the opinion held primarily by those who are considered to be experts on eyewitness identification matters. Brannigan (1984) and Loftus (1984) suggest that experts can often play a fundamental role in instructing jurors about factors related to an

⁹A recent Canadian example where an accused was acquitted on the grounds of the "exclusion of alibi witnesses and inadequate instruction of jurors concerning eyewitness evidence" is the case of Thomas Sophonow ("Appeal judges," 1985). Although the case is not as yet closed, it appears at this point that Sophonow might well represent another example in which an innocent individual was falsely convicted on unreliable eyewitness testimony, or at least testimony which should have been given less 'weight' than it received by the jury.

eyewitness' testimony and its reliability. Loftus, among others, argues that the cautionary instructions from the trial judge may not be sufficient to alleviate the danger of mistaken identification and that experts should be allowed to testify in such instances.

The above observations are not intended to berate judges' abilities, but rather to draw attention to the fact that judges are only human and more-or-less subject to the same pitfalls as jurors and lawyers. And since they can play an important role in instructing the jury on how to assess an eyewitness' testimony, their impact deserves careful examination. The second part of the study will explore this particular issue: how a judge's charge may affect the jury's decision-making process. The procedure used is illustrated in Table 27 and discussed further in Chapter IX.

Expert Opinion of Eyewitness Evidence

The idea of somebody coming forward as an expert on perception and memory - or the social and perceptual factors in eyewitness identification - has been resisted mightily and I suggest that it will continue to be resisted.

Robert Buckhout, 1976.

There are special circumstances in which expert witnesses might offer opinion evidence about a case. Such evidence of disposition, as it is called, can be used to establish the credibility or unreliability of an eyewitness' testimony. In the majority of cases, psychologists are brought in to testify for the defence. Buckhout (1976:43) suggests that many judges and lawyers believe that eyewitness experts tend to be unreliable and "many prosecutors and a large percentage of judges simply do not want the jury to hear scientific evidence...which might negate the main evidence on which the trial has proceeded."

It is a reasonably well documented fact that jurors are over-reliant on eyewitness testimony. Loftus (1984), for example, cites a number of cases in which the opinion of an expert witness was able to help the jury reach its decision by providing additional information which equipped the jury to evaluate the identification evidence fully and properly. The form in which such opinion evidence is presented, however, can be very general or quite specific depending on the inclination of the particular judge who decides on admissibility (Loftus, 1984).

Allowing expert testimony on eyewitness issues into court has been a controversial subject. (see Egeth & McCloskey, 1984; Grano, 1984; Loftus, 1980, 1984; Wells, 1984; Wells & Murray, 1983), and the impact such testimony can have on the outcome of a trial is still unclear. Bazelon (1980) suggests that we may never know the answer, but that we should, nevertheless, continue to examine whether general or specific testimony is more relevant and under what conditions this type of evidence should be sought.

Recognizing the important role that experts can play in assisting the jury to reach an informed decision, this issue was also incorporated into the second experiment in the study.¹⁰ It will not be the purpose of the experiment, however, to explore the issue of general versus specific opinion. Although this would be of great interest and benefit to the legal profession and to eyewitness researchers, it is beyond the scope and context of the present study.

Another issue that will not be addressed, but which deserves brief mention, concerns the general presentation of opinion by experts. Shapiro (1984) and Gudjónsson (1984) have noted, for example, that many experts lack the proper training to present

¹⁰It should be noted that the use of experts in a criminal court case is not restricted to psychologists alone. Weapons experts, medical and forensic doctors, and police officers, may be called upon to respond to the credibility of testimonial evidence. With respect to this, the present study is, in part, concerned with experts in the area of eyewitness related issues. The second experiment includes an instructional condition in which such expert testimony was used.

their opinions in the most informative and beneficial manner. As Gudjonssen (1984:82) comments, "(q)ualifications alone do not make a good 'forensic' psychologist...(w)hat is required is a specialized training course which provides comprehensive familiarization with the various aspects of the adversary system and the psychologist's role within it." Although this issue is important, it is beyond the scope of this study. It will, however, be briefly readdressed later.

Counsel

Although an examination of the impact which defence counsel can have on jury deliberation is not included as one of the conditions of study in Experiment 2, a brief overview of their role in the court will be presented since defence counsel do represent one of the key actors in a criminal case. The role which defence counsel can play in instructing the jury and/or judge is considered more complex than can be dealt with in a single case scenario. A separate study would be needed.

Lawyers involved in criminal cases have not always been held in high regard (Reid, 1981). Some of this skepticism, however, may be attributable to a lack of public awareness of their responsibilities and to incidents such as Watergate which received an inordinate amount of media coverage. Chief Judge C.D. Breital of the State Court of Appeals in New York in 1977 suggested that lawyers are "self-reliant...rather than socially

responsible; they are motivated by what the legal profession does." In a similar vein, Alexis de Tocqueville once commented that lawyers "belong to people by birth and interest, and to the aristocracy by habit and taste; they may be looked upon as the connecting link between the two great classes of society" (Reid, 1981:412-13). Thus, Tocqueville felt that their special knowledge afforded American lawyers the status equivalent to that of the aristocracy.

Although the Canadian Bill of Rights guaranteed an accused person the right to retain and instruct legal counsel, until the recent enactment of the Charter of Rights in 1982, an accused in Canada, unlike in the United States, did not have an *absolute* right to be represented by counsel at a criminal trial. In fact until 1982, Canadian police officers were under no legal obligation to advise an arrested person of that right (Griffiths et al., 1980: see footnote 14 p. 148). Compared to their counterparts in the United States, prior to 1982 inexperienced accuseds in Canada could have been at a considerable disadvantage.¹¹

¹¹The only exception in Canada where accuseds will be represented by counsel is when they appear to be unfit to conduct a defence due to insanity (Canadian Criminal Code, sec. 533(3)). Section 10(b) of the Charter of Rights states that upon arrest or detention everyone has the right "to retain and instruct counsel without delay and to be informed of that right" (see *R. v Therens* (1985, 59 N.R. 122(S.C.C.)) for a recent case in which a drunk driving charge was dismissed because the investigating police officer failed to inform Therens' of his rights).

The situation can be further complicated by the fact that in all criminal cases, although there may or may not be a defence counsel present, there is always a public prosecutor in court (usually referred to as the Crown Counsel).¹² The prosecutor assumes the role of minister of justice and is an agent of the provincial Attorney General or Attorney General of Canada (Brannigan, 1984). According to the Code of Professional Responsibility of the Canadian Bar Association, the Crown's responsibilities in the trial include ensuring that justice prevails, not merely that the accused is convicted. Prosecutors also have a great deal of discretionary power over what cases are brought to court and their decision may be strongly influenced by both public pressure (see Brannigan, 1984; Griffiths et al., 1980) and police influence and pressure (Grosman, 1982). However, in Canada, not all provinces consider it appropriate for the prosecutor to make a recommendation as to sentence, as is the case in the United States (Greenspan, 1982:203; see generally Cohen, 1977, cited in Griffiths et al., 1980:154).

Even though Legal Aid or defence counsel do not play as prominent a role in the Canadian legal system as in the United States, a brief overview of their role will be presented. As noted earlier, however, they will not serve as one of the study

¹²Burns (cited in Griffiths et al., 1980:153) notes that under certain circumstances "it is possible for a private citizen to initiate and conduct a prosecution in Canada"; however, "the great majority of criminal cases are initiated by the police and are prosecuted by a public official."

group conditions in Experiment 2 since their role is more situation specific than that of the jury, trial judge, or expert eyewitness.

Defence Counsel/Legal Representation

John Hagan (1977) observed that in Canada, there are fewer than 2000 jury trials per year.¹³ He notes, however, that "the media image of the court process is that of a trial by jury, with prosecution and defence attorneys assuming adversarial roles in a battle for justice. In fact, however, few criminal cases follow this adversarial pattern" (p. 159).

Although no exact figures are available, it is suspected that in many criminal courts, the accused is without a defence counsel. This may or may not be related to the fact that almost 70% of all persons charged plead guilty (Greenspan, 1982). The role of the defence for such cases might be considered minimal,

¹³Brannigan (1984:153) notes that "(i)n Canada, trial by jury is an option generally open to most who face charges that could result in imprisonment for five years or more...criminal jury trials do not occur frequently in the justice system." For example, Griffiths et al. (1980) observed that only 2.3% of the criminal cases in British Columbia proceed to high court and most of these are heard by a judge alone. Parker (1977:258) notes that more "than 90 per cent of the criminal trials in Canada are heard before justice of the peace, magistrates or provincial court judges...Many of these accused persons plead guilty and many of them are not represented by counsel." Parker goes on to note, however, that legal aid plans are beginning to change this trend today. In the United States, only about 8% of all criminal cases are decided by jury trials, but this amounts to 300,000 such trials a year (Cole, 1979)! By contrast, virtually all cases in West Germany are decided by jury trials (Undeutsch, 1984).

but as Greenspan (1982:203) argues, the sentencing process is critical and the defence should do everything possible to get the best for the client; "getting the judge to accept your viewpoint is what it is all about."

In those cases where a defence counsel and jury are present, the accused may be confronted with additional problems. It is the responsibility of the defence attorney to protect the legal rights of the accused, to ensure that proper legal procedures are followed,¹⁴ and to give the client the best advice within the law. In many cases, however, this representation is less than ideal. Platt and Pollock (1974) found, for example, that most criminal defence lawyers come from the lower middle-class, did not intend to pursue law as a career, and generally are not considered to be leading members of the bar. This may, in part, be due to the fact that criminal practice, especially legal aid practice, is generally not seen as a lucrative source of income since the clients often lack the resources to retain a lawyer. There are, of course, a number of criminal lawyers who manage to make a very good living through the practice of criminal law.

To address this problem, in part, a system employing legal aid defence was instituted in Canada. In the United States, legal aid lawyers are referred to as public defenders. These government funded lawyers provide the bulk of counsel to

¹⁴Greenspan (1982) offers an interesting discussion about the role of defence counsel in the sentencing process. He advocates that lawyers should play an adversarial role for their clients "at all cost".

indigent individuals for both criminal and civil cases. There are a large number of criminal cases heard each year and many of the accused in such cases cannot afford to retain their own counsel. As a result, public defenders (in the United States) and legal aid defence counsel (in Canada) tend to have very large caseloads and often lack the adequate time and resources to prepare a case (Brannigan, 1984). Hence, it may be that most accuseds receive less than optimal justice. Brannigan (1984:104) also notes that research suggests "that these are not the most successful practitioners in the legal field and/or that legal aid cases are not handled with comparable time and care as private cases."¹⁵ This being the case, one cannot always be confident that the defence would be able to cross-examine an eyewitness properly, inform a judge or jury, or raise reasonable doubt about an eyewitness' testimony. The jury or judge must then either be sufficiently knowledgeable about the credibility of an eyewitness' testimony or they must rely on whatever instructions they receive from the defence counsel.

Although not an exhaustive review of the issues, this discussion has served to illustrate the important role that the defence and prosecuting attorneys can play in adequately

¹⁵See Brantingham (1981) for a detailed study of the Legal Aid system in British Columbia and Strauss (1982) for a comparison review of public defender practices in five provinces across Canada. Brantingham (1981:16) concluded that "public defence mode of legal aid delivery offers a cost effective means of providing legal services if caseloads are maintained and quality of representation monitored. With a public defender there should be reduced correctional system cost, and, possibly, reduced court system cost."

informing jurors about the credibility of an eyewitness' testimony.

In the final section of this chapter, some of the findings from studies involving simulation juries will be reviewed.¹⁶

Jury Simulation Studies

Earlier, it was suggested that jurors may not be very reliable at estimating the accuracy or credibility of an eyewitness' testimony. This notion has been explored by a number of researchers (see Bray & Kerr, 1982; Gerbasi, Zuckerman, & Reis, 1977 for reviews of mock jury and courtroom studies). Brigham and Bothwell (1983), for example, found that prospective jurors tended to overestimate the "hit rates". - that is, the number of times they are correct. Deffenbacher and Loftus (1982) observed that, regardless of any previous trial experience, jurors did not demonstrate any uniform patterns of knowledge or understanding about eyewitness testimony issues. Similar observations have been made by other researchers as well (see Greer, 1971; Wells, 1984). Dillehay and Nietzel (1985), however, observed that jurors with prior jury experience increased the

¹⁶It should perhaps be noted that legal ethics do not allow for the study of jury decision-making in real life situations. Therefore, all such studies have been jury simulation studies. One very recent exception has been the documentary filmed by the Public Broadcasting System which was televised in April 1986. This was the first recording of a jury deliberation on a criminal case. The implications of this exception are discussed in more detail in the General Discussion section under "Future Research" (see point number two).

probability of a conviction. The study, however, only looked at felony cases; they did not consider what transpires during the decision-making process or what factors might affect the decision-making process. For example, Severance, Greene, and Loftus (1984) note that the manner in which jurors are provided with instructions on criminal law, the manner in which evidence is heard, and so on, are important factors in the decision-making or deliberation process. Nagel, Neff, and Lamm (1981) also found, for example, that women are relatively less concerned about convicting an innocent accused in rape cases than in robbery cases.

Perhaps the most comprehensive jury study undertaken in recent years was completed by Hastie et al. (1983). The experimental method they used to study jury deliberation processes has been considered the closest representation of real jury deliberation ever undertaken (Brown, 1986). Furthermore, Brown (1986) notes that while their design was very simple, the efforts taken to achieve external validity have been virtually unmatched by anything else in the literature. Some of their key findings include: (1) unanimous-rule juries and majority-rule juries do not differ in the verdicts they render, (2) an unanimous-rule jury is superior to the majority-rule jury in the quality of its deliberation and in its satisfaction of due process, and (3) the verdict is still out as to which size of jury (6, 9, or 12 member juries) is the most reliable. They concluded, however, that juries still serve a vital role in the

administration of justice.

If the courts are going to continue to permit eyewitness testimony as part of case evidence, and to allow jurors to assess the credibility of such testimony, then it is important that we not only understand how various eyewitness estimator variables and certain system factors can affect the reliability of a juror's decision, but also how the various key actors can influence a juror's interpretation of such evidence. Experiment 2 will examine a number of the estimator and system variables, as well as a number of different jury cautioning conditions. Sales et al. (1977:74) have observed that "(o)ne of the most troublesome events in a jury trial is the judge's instructions on the law after the evidence has been presented...(t)ests need to be conducted comparing the efficacy of instructions presented at the beginning and the end of the trial versus at the end alone" (p. 70).

EXPERIMENT 1: METHODOLOGY

Subjects

A total of 219 individuals were involved in completing the questionnaire for Experiment 1. The participants represented four different groups of individuals, each group being classified according to its perceived level of intuitive knowledge about issues relating to eyewitness identification and testimony as identified in the literature. The four groups included:

1. Seventy-one (male and female) undergraduate criminology students who met the legal requirements established for juror eligibility served as the first group.¹ Three of the questionnaires were dropped from the sample due to incompleteness or juror ineligibility. The participants were considered representative of potential lay and relatively uninformed jurors. Participation in the study was voluntary.
2. Forty (50%) of a possible eighty lawyers completed the

¹The Juries Act, 1974, identifies conditions which must be met before an individual can serve as a juror. They include the following: (1) reside in British Columbia; (2) is Canadian citizens'; and (3) in the year preceding the year for which the jury is selected had attained the age of eighteen years or more and had not attained the age of sixty-nine years or more. There are several conditions under which a person may be ineligible to serve as a juror. Some of those which may apply to a student body include: (1) a student-at-law, (2) a constable, jailer, correctional institutions worker, or sheriff, (3) a spouse of a judge, barrister and solicitor, or a person mentioned in point 3 (see Appendix E).

eyewitness questionnaire (see Appendix A). The questionnaires were returned in the stamped self-addressed envelopes which had been delivered, by the researcher, at two meetings of the Criminal Bar lawyers in Vancouver (refer to the Procedure section for an explanation of the lawyer selection process). Two of these questionnaires were removed from the sample because one was incomplete and the other was incorrectly filled out. It was proposed that the lawyers would represent a somewhat more informed group than the student group because they are more closely connected with using eyewitness evidence as part of their case preparation and presentation.

3. Of fifty mailed questionnaires, thirty-three (66%) were returned by various psychologists solicited from six universities across Canada. Three of the questionnaires were discarded due to incompleteness (refer to the Procedure section for an explanation of how the universities and psychologists were selected). The length of the questionnaire may also have deterred some. It was proposed that because of their academic training, psychologists would have better informed intuitions about variables affecting eyewitness performance than the other groups.
4. Seventy-five (93.7%) of a possible eighty questionnaires were completed and returned by police officers from two Lower Mainland RCMP detachments. Seven of the questionnaires were dropped from the sample because of incompleteness or because they had been completed by secretarial staff. Police

officers were considered to be somewhat informed because they are most closely connected with the gathering of eyewitness evidence. Refer to the Procedure section for how the detachments and police officers were identified and selected for participation.

A total of fifteen questionnaires were excluded from the analysis. The final sample, therefore, included a total of 204 questionnaires (students N=68, lawyers N=38, psychologists N=30, and police officers N=68).

Materials: Questionnaire

In order to measure the participants' conceptions about certain eyewitness issues, a number of steps were considered necessary. They included:

1. Reviewing the literature which addressed the possible effects various system and estimator variables have on eyewitness identification. Some of the issues and variables were discussed in Chapter IV.
2. Observations from the literature were then rephrased into hypothetical multiple-choice type questions. The questionnaire was then pilot-tested on a group of 30 upper-level criminology undergraduate students for item quality and content. The testing served as a form of item analysis. Based on the feedback, a number of changes were made. A copy of the final questionnaire is presented in

Appendix B.

The general format and some of the questions were similar to those used by Brigham and Wolfskeil (1983), Deffenbacher and Loftus (1982), and Yarmey and Jones (1983). A number of modifications, however, were made. For example, all the questions included a confidence rating scale similar to that used by Loftus (1979). The 5-point scale was intended to reflect the confidence with which the respondents answered the questions.² In addition, most of the questions provided an opportunity for the respondents to qualify their answer or offer an alternate response. Such an option, to date, has not been offered. It was felt that this option should be included because it could be argued that since there appear to be few conclusive observations about how, what, and in which way certain factors can affect an eyewitness' ability, respondents might feel more comfortable explaining and/or qualifying their answers. Although the inclusion of this option could make the questionnaire more difficult to analyze, it was anticipated that it would minimize any guessing on the part of the respondents.³ To further

²While there has been considerable work done on people's confidence in their recollections (see Lipton, 1977; Wells et al., 1978), little has been done to measure the level of conviction that people have about memory, given their actual knowledge about such information (see Wells & Wright, 1986). Loftus (1979:109) points out that "confidence in one's memory and the accuracy of that memory do not always go hand in hand." It will be of interest, to this study, to examine how confidence relates to people's general knowledge base about eyewitness research and information.

³The decision to include this option in the questionnaire was based on conversations with Dr. John Yuille in May of 1985. Dr. Yuille offered some persuasive arguments for the inclusion of

minimize any guessing effects, a "Don't know" option was also included in the questionnaire. It was felt that this should reduce any possible error rates; that is, reduce the number of times respondents might select an incorrect answer because a "Don't know" or "Other" option was not available. Furthermore, the inclusion of a "Don't know" option would address the possibility that if an answer has a low confidence score, it may be due to the fact that the respondent did not know and simply guessed. Warnick and Sanders (1980) present an interesting argument for including such an option in multiple choice type questions. This option has not been included in any of the previous studies reviewed.

In addition to including a confidence scale, a "Don't know" option, as well as an open-ended response option were included with each question. Furthermore, where appropriate, for the questions where gender was not intended to be a specific issue all references to a particular gender were removed by using third person pronouns. As Labaw (1980) notes, questions should remain simple and yet specific in order to minimize any confounding effects of extraneous information.

Since the study took place in Canada, the questions were also standardized to reflect Canadian content and legal procedures. For example, since there is a smaller Black population in Canada than in the United States, Chinese or

³(cont'd) open-ended response options.

Native Indians were substituted for Blacks and Hispanics."

The questionnaire also covers a wider range of issues than those in previous studies and therefore should represent a more encompassing study. Rather than only examining "estimator" variables, "system" variables (see footnote 9, p. 6) were also examined, focusing specifically on social, recall and interrogational factors, as well as on courtroom procedures (which also have not been previously surveyed). This area was considered important to explore as well since system variables can also have an impact on an eyewitness' testimony (see Wells & Wright, 1986). For example, whether or not the judge, lawyer, or expert offers a cautionary comment about eyewitnesses may affect a jury's verdict (see Loftus, 1975).

In addition to the above questions, there are also a series of questions which are concerned with the feasibility of training people to be better eyewitnesses. Although it is generally felt that it is possible to train people to be better eyewitnesses, few researchers have actually examined this issue. While attitudes or beliefs, as expressed through surveys, may not correspond directly with what individuals would actually do,

"The author is aware that the questionnaire may have a number of other limitations (see Wells 1984, for a general critique of similar questionnaires). Rather than choosing not to address the issue, steps were taken in the construction of this questionnaire to minimize as many of the potential limitations inherent in questionnaires as possible. For example, the addition of a related measure (the written trials) was intended to reduce even further any construct validity problems that might have existed.

it is still considered worthwhile to examine these issues since considerable efforts are being made by various components within the Criminal Justice System (especially in the areas of crime prevention) to train key people (e.g., bank tellers, store clerks, and police officers) to be better eyewitnesses (e.g., see Baddeley & Woodhead, 1983; Yuille, 1984).

Finally, the debate over the validity of questionnaire responses can trace its roots to an article by Hyman (1944) in which he discusses some of the problems of questionnaire data. Since Hyman's article, the controversy about the value of questionnaires has continued. This has, in part, been reflected in the numerous ideas and strategies which have been developed as ways of increasing the reliability and generalizability of questionnaire responses to the real world. This study has attempted to address some of the major issues, as well as to introduce an independent comparative approach - a written case summary of a murder trial. The procedures for this study are presented in Experiment 2.

Procedure

Sampling the undergraduates was accomplished by speaking to three different classes. The presentation involved presenting a brief overview of the purpose of the study, a statement of confidentiality, and noting that participation was voluntary. It was hoped that it would be possible to select the students on

two criteria: those with previous jury experience (in the last five years) and those without any jury experience whatsoever. It was not possible to do this, however, which may, in part, be a reflection of how few cases in Canada are heard by a jury.

Since several other studies which involved surveying legal professionals (e.g., Brigham & Wolfskeil, 1983; Yarmey & Jones, 1983) had low response rates to mailed questionnaires, it was felt that the response rate might be improved by distributing the questionnaire, in person, at a meeting of the Criminal Bar in Vancouver. Although it would have been preferred, time constraints did not permit the lawyers to complete the questionnaire during the meeting. Stamped self-addressed envelopes were therefore provided. It was also hoped that follow-up letters could be sent to all the lawyers in an attempt to encourage those who failed to return their questionnaires within two weeks. Since it was not possible to obtain a list of the lawyers attending the meeting, no follow-up letters were mailed. However, personal communications with the chair of the Criminal Bar Sub-section ensured that a reminder was made at a meeting held approximately one month later. This did appear to help as several more questionnaires were returned after this date.

Due to the initial low return rate, the Office of the Crown Counsel was approached in an effort to increase the sample size. Twenty questionnaires were provided to the senior Crown Counsel who then distributed them among his staff. The number of

questionnaires provided was suggested by the senior Crown Counsel and was based on the number of legal staff he had working for him at the time. Eighteen of the questionnaires were returned.

In addition to sampling lawyers, an attempt was made to survey senior law students. After speaking to a class of nearly one-hundred students from a senior law class at the Law School at the University of British Columbia, only six questionnaires were returned. For a number of practical considerations, it was decided that a second attempt would not prove any more fruitful. It was decided not to include this group in the study.

In order to survey Canadian psychologists, a list of names was randomly selected from six university calendars available at the university library. Since it was not possible to know the specialties of the professors, no attempt was made to pre-select them by area of specialty, although ideally it would have been preferred. A follow-up letter was mailed two to three weeks after the the initial mailing of the questionnaires.

Unlike Yarmey and Jones (1983:15), who only used "those psychologists who had published controlled, quantitative studies in refereed journals in eyewitness identification and testimony", it was not possible to do so in the present study since only 10% considered themselves to be *well informed* (options 1 & 2) on the eyewitness literature (see Table 2).⁵

⁵For the analysis, it was intended that if enough experts were identified, a separate analysis according to area of

Sampling of the police officers was facilitated by obtaining a letter of support, from the RCMP Superintendent for "E" Division in Vancouver. Two detachments in the Lower Mainland were randomly selected from a possible five. A covering letter (see Appendix C) was initially mailed to the Officer-in-Charge (OIC) of each detachment. This was followed a week later by a telephone call requesting a meeting to arrange how the questionnaires might best be administered. In both cases, the OIC took the questionnaires provided (forty each) and had the senior officers request that their officers complete the questionnaires. They were asked to try and obtain a cross-section of different staff such as traffic-and-safety, administrators, and members from the general investigation units.

Scoring Method

Those scoring 1 or 2 on the informed scale were designated as being well informed, and those scoring 4 or 5 as uninformed, while the remainder were defined as being reasonably informed. The confidence ratings for each of the questions were scored in the same manner. Namely, those scoring 1 or 2 were designated as very confident, and those scoring 4 or 5 as not at all confident, while the remainder were defined as neutral. For the analyses, the answers to each question were scored as '1' if

5 (cont'd) specialization would be conducted. The breakdown for area of specialization in psychology included: seven - developmental, five - cognitive, five - social, five - clinical, two - memory, and six "other" (communication, rehabilitation, psychopathology, etc.).

correct and '0' if incorrect.

CHAPTER VIII

RESULTS AND DISCUSSION: EXPERIMENT 1

To be human is to be fallible; to be informed is to be less fallible.

Brian Clifford, 1976.

Background Information

The final sample for the four subject groups used in Experiment 1 included student jurors (N=68), lawyers (Crown and Defence counsel; N=38), academic psychologists (N=30), and police officers (N=68).

Table 1¹ provides a breakdown of some of the background characteristics of the subject groups, specifically years experience in present profession, mean age, and gender.²

One of the questions in the "Background Information" section asked the respondents to indicate on a five point scale, 1 being *well informed* and 5 being *not well informed*, how well informed they considered themselves to be "about eyewitness research findings". A one-way analysis of variance indicated that the pattern of responses across the four groups was significantly

¹In order to retain the flow of the text, the tables for each experiment are located at the end of each Results and Discussion chapter.

²Although there were several other questions included in the *Background Information* section of the questionnaire (see Appendix A), the results provided no useful information for further analysis. For example, less than 3% of the respondents had served as an eyewitness to a crime and fewer than 2% had served as a member of a jury.

different from chance ($F(3, 200)=7.74, p < 0.01$). Table 2 shows that 37.8% ($M=1.84$) of the lawyers and 36.8% ($M=1.97$) of the police officers considered themselves to be *well informed*³ (options 1 & 2) about eyewitness research findings. Somewhat surprisingly, only 10% ($M=2.47$) of psychologists considered themselves *well informed* about issues relating to eyewitness identification and testimony. With regard to the student 'jurors', 13.2% ($M=2.41$) felt that they were *well informed* about eyewitness issues. Post hoc analysis, using the Scheffé procedure with $\alpha=.05$, revealed that the psychologists rating of themselves, contrary to expectation, was significantly less than how the lawyers and police officers rated themselves on the informedness scale. Similarly, the student 'jurors' rating of themselves was significantly less than the ratings by the lawyers and the police officers. The latter observation is not unexpected since it was decided that the student 'jurors' would represent the least well informed group.

Accuracy

In order to determine whether the psychologists' correct

³Other than for the initial ANOVA test, subsequent analyses were based on the response options being tricotimized so that options 1 and 2 were combined to represent *well informed*, option 3 to represent *informed*, and options 4 and 5 to represent *not well informed*. The decision was based on the distribution of the the scores, as well as on the assumption that if one is not an expert in the area, it is less likely that a respondent would consider him/herself *well informed* about eyewitness issues.

response rate⁴ answers were significantly higher than the relative number of *correct* answers for the other groups, each question was coded either '1' if *correct* or '0' if *incorrect*. A one-way analysis of variance on the mean number of *correct* responses summed over 21 of the 22 items showed that there was a difference across the four groups ($F(3, 200) = 9.03, p < 0.01$).⁵ A subsequent post hoc analysis using the Scheffé procedure with $\alpha = .05$ showed that the psychologists' overall mean *correct* response rate ($M = 11.50$) was significantly greater than the *correct* response rate for the police officers ($M = 8.76$) and the student 'jurors' ($M = 9.89$). The findings are in general concordance with what was expected.

Even though it was anticipated that the psychologists would have a higher *correct* response rate than the other groups, it was nevertheless somewhat surprising because overall they did not consider themselves that well informed on these issues. Only 10% rated themselves as *well informed*. It may be that since much of the literature in this area is relatively recent, and that the psychologists did not represent a group of experts, their

⁴Most of the questions had a *correct* answer. The answers were based on a review of the literature in the field, as well as on the fact that similar questions had been used in other studies (Deffenbacher & Loftus, 1982; Loftus, 1979; Yarmey, 1986; Yarmey & Jones, 1983). However, because the empirical evidence relating to the various questions has not always been unanimous, the answers should not be interpreted as an absolute (see the discussion in Chapter IV).

⁵Question number 5 which is presented in Table 8 was not included in the analysis because there was no *correct* answer for the question.

educational training may not have provided them with sufficient information in order to consider themselves any more informed when compared to the other groups. When the psychologists' performance is compared to the experts in Yarmey and Jones' (1983) study, the results of the present study are noticeably lower (54.7% vs. 76.7%). Therefore, the present group of psychologists should not be considered comparable to the experts used in the study by Yarmey and Jones (1983). This issue will be discussed in more detail later.

When the overall percentage of correct responses was computed across all the groups, the level of perceived informedness) about eyewitness identification and testimony issues did not correspond to the respondents overall rate of correct responses ($F(2, 201) = .2926, p = 0.75$). Correlational analysis by group informedness and their overall correct responses, did not reveal any significant differences. Thus there was no relationship between correct responses and groups' levels of informedness.

Confidence and Accuracy

A considerable amount has been written in recent years about the relationship between the accuracy of eyewitness identification and testimony and the level of confidence expressed by the eyewitness (Brigham & Bothwell, 1983; Brigham & Wolfskeil, 1982; Murray & Wells, 1982; Wells, Leippe, & Ostrom, 1979; Wells & Murray, 1983, 1984; Yuille & McEwen, 1985).

As indicated in Table 25, there is no clear relationship between the groups' levels of confidence in their answers and the degree of accuracy in their answers. Overall, however, there is a slight positive correlation between accuracy and confidence ($r(204) = .214, p < .01$). While the overall percentage of correct responses was 46.6%, on the average 57.4% felt "very confident" that they had selected the correct answer. For the police officers and the student 'jurors' there were positive correlations between correct answers and level of confidence across all 21 items ($r(68) = .270, p < .03$ and $r(68) = .280, p < .02$ respectively). While the other two groups did not have a significant correlation, the correlation coefficient score for the psychologists was slightly negative (see Table 2).

From these results, it can be suggested that the level of perceived informedness about eyewitness issues is positively correlated with accuracy. The relationship, however, is not very strong. This association may, as Yuille and McEwen (1985) noted in their study, be simply an artifact of personality types. That is, "people who are more expressive in their responses more readily rate themselves as confident" (p. 399). This possibility deserves closer investigation.

Subject Groups by Question Types

In an effort to determine whether there were any differences in the response patterns among the four subject groups according

to the type of questions they answered *correctly*, a discriminant analysis was performed on the data. No statistically significant classifications or question groupings were discovered.⁶

Subsequently, 2 (correct/incorrect) X 4 (groups) chi-square tests with 3 degrees of freedom⁷ were used to test for differences between the four groups. In addition, 2 X 2 chi-square analyses were performed to determine which pairs' *correct* response scores differed from one another. Because this procedure involved multiple (six) comparisons it was necessary to adjust the significance level. The adjustment was based on the "Bonferroni inequalities" procedure (Hays, 1981) without the Yates' correction.⁸ The post hoc procedure also served to help explore whether any patterns emerged among the groups when certain questions were grouped together because they shared a common subject matter (e.g., questions relating to recall, questions about age and recognition ability, police and recall

⁶A reliability test was also run across all the items using the alpha model. This procedure was used to test inter-item correlation. The mean inter-item correlation was 0.03 and total variance explained only .005. The low inter-item correlations from (-.182 to .252) among the questions indicate that there was no item redundancy in the questionnaire. Therefore, each question can be analyzed separately since they represent a different problem within the field of eyewitness identification and testimony.

⁷All statistical analyses for Experiment 1 were done using the SPSSX computer package.

⁸The "Bonferroni inequalities" procedure "implies that we should divide the $\alpha = .05$ by the number of pairs, if we wish the probability to be no more than .05 that least one Type I error occurs" (Hays, 1981:437). For the present study the significance level was set at $.05/6 = .008$. The 6 represents all the possible group comparisons.

ability, etc.). The results, when statistically significant, have been presented in a table and where appropriate, will be discussed.

Despite the statistical evidence from the reliability and discriminant analysis, it is felt that some of the questions could be grouped according to their subject matter (e.g., cognition and stress, memory, child witness, recognition, etc.). For the sake of convenience and simplicity of presentation, therefore, a number of the questions are grouped together in the presentation of the data. A similar format was used by Loftus (1979) and Yarmey and Jones (1983).

Cognition and Stress/Arousal

The effects that stress, arousal, or anxiety can have on recall have been extensively researched. And while it has generally been reliably demonstrated under laboratory conditions that stress, anxiety, and arousal can interfere with a person's ability to recall events accurately (see Loftus, 1979), what has not been determined is the inter-relationship between qualitative and quantitative stress or the extent of anxiety and degree of accuracy in memory.⁹ For example, it has been demonstrated that certain amounts of stress or anxiety can

⁹Loftus (1979) did use a life stress test, called the Life Experiences Survey (see Sarason, Johnson, & Siegal, 1978), to obtain some quantitative measure of anxiety and preoccupation. She did not, however, measure the direct stress factors (e.g., events surrounding the crime) and indirect factors (e.g., loss of job, death of a close friend, recent relocation, etc.). In future research on the effects of stress, it might be useful to consider obtaining such measures from the eyewitness.

improve our ability to perceive and recall details of a crime (Anastasi, 1964; Deffenbacher, 1983).

Table 3 shows that most of the subject groups reflect a 'strong' awareness that stress can affect one's ability to remember events. The overall percentage of *correct* responses for the questions was 70.6%. Some of the groups, however, were more aware than others. Only 47.4% of the lawyers chose the *correct* answer while, around 80% of the psychologists and student 'jurors' selected the *correct* option. A chi-square test indicated that there was a difference between the *correct* response rates between the four groups ($\chi^2(3, N=204) = 14.69, p < 0.01$). Subsequent post hoc comparisons between the groups indicated that statistically the lawyers response rate was significantly less from that of the psychologists and the student 'jurors' ($\chi^2(1, n=68) = 7.56, p < .006$ and $\chi^2(1, n=106) = 12.77, p < .0004$ respectively).

Based on the results presented in Table 4, it appears that while most respondents may be aware of the general effect of stress on a person's perception and recall, they are less aware of the different effects created by witnessing a violent versus non-violent crime. Several researchers (e.g., Clifford & Scott, 1978; Hollin, 1981) have shown that recall is better for non-violent crimes than for violent crimes. When the respondents were asked whether a man or woman would differentially remember the details of a violent and non-violent crime, only 23% of the respondents choose the *correct* answer, that both persons would

remember the details of the non-violent crime better than the details of the violent crime. On this item, the psychologists had the highest percent of *correct* responses (36.7%) while the student 'jurors' had the lowest percent of *correct* responses (14.7%). According to the statistical analysis, none of the response rates were significantly different from one another.

Table 5 addresses the respondents' knowledge about the effect weapon focus can have on memory recall. Various researchers (Clifford & Bull, 1978; Kramer, 1984; Loftus, 1979) have found that a weapon generally represents a highly salient stimulus which competes with the other features of the perpetrator such that it has a tendency to interfere with the time and attention for other details such as perceiving the assailant's face. Overall, 48.5% of the respondents chose the *correct* response which stated that since the victim focused on the gun, it would interfere with his ability to remember the robber's face. Although the differences between the groups' *correct* response rates were not statistically significant, the student 'jurors' showed the highest agreement on response number 4 (58.8%), followed by the psychologists at 46.7%. The lawyer group had the lowest *correct* response rate (36.8%).

The results in Table 6 indicate that a majority (73.5%) of the respondents *correctly* answered that people would generally overestimate the duration of a crime witnessed. A chi-square analysis showed that there was a difference between the *correct* response rates of the groups ($\chi^2(3, N=204) = 12.37, p < 0.01$).

This observation is consistent with the findings of Buckhout (1974) and others. The post hoc comparison analyses indicated that the lawyers *correct* response rate (86.8%) was significantly greater than that of the police officers' (58.8%) ($\chi^2(1, n=106) = 8.93, p < .003$). Using a similar question, Yarmey and Jones (1983)¹⁰ found that the second most frequently selected response (32.0%) indicated that the respondents believed that people would be equally likely to underestimate as overestimate the time an event took. The results from the present study did not support this observation. The second most frequently selected answer said that, "(i)n general, most would underestimate" (17.2%). The difference between the findings of Yarmey and Jones (1983) and those of the present study may, in part, be attributable to the fact that the comparable option was worded differently in both studies.¹¹

¹⁰An interesting variation on the theme of over- or under-estimation was recently completed by Flin and Sheperd (1986). They studied the ability of subjects (all males) in a field setting to estimate the height and weight of a confederate which they had met several minutes earlier. The main finding was that height and weight estimation was related to the participants own height and weight. The investigators observed that there was a tendency to underestimate the height of the target, except for the shortest target, for which respondents tended to overestimate his height.

¹¹In the present study, option "3" read: "Overall, the estimates would be very close to four minutes"; while in Yarmey and Jones' (1983:20) study, the comparable answer read: "be equally likely to overestimate as to underestimate the duration of the crime" (also see Read et al., 1978).

Question Wording and Question Format

Loftus (1975), Loftus and Greene (1980), and Loftus and Palmer (1974), among others, under laboratory type settings demonstrated that people are generally sensitive to subtle changes in the wording of a question, as well as being sensitive to misleading post-event information. McCloskey and Zaragoza (1985), however, contend that the procedures used by Loftus and her colleagues were unsuitable for assessing the effects of inconsistent post-event information on memory. Similar arguments have been put forth by Read et al. (1978). In explaining the discrepancy between the findings of Loftus and Palmer and their own, Read et al. (1978) conclude that although "subjects' memories of an event may be easily altered with regard to a particular item if the existence of that item is presupposed in an earlier question...the thematic representations in memory for an event are remarkably resistant to the effects of subsequent questioning" (p. 799-800). The latter two studies offer a number of rationales which raise some doubt about the actual effects which "question wording" and manipulation of post-event information can have on recall ability. These two issues were examined in the questionnaire; the results are presented in Tables 7 and 8.¹²

¹²A recent study by Macleod and Ellis (1986:43) which attempted to address some of the criticisms raised by McCloskey and Zaragoza was only able to provide "partial support" for the prediction that inconsistent information would affect recall accuracy.

The results presented in Table 7 support those found by Loftus (1979) and Yarmey and Jones (1983). Namely, a majority of the respondents (82.8%) reflected an awareness of the effect of question wording by selecting the *correct* answer. Of the four groups, the psychologists answered correctly most often (90.0%), while the police officers chose the *correct* answer least often (72.1%). The lawyers also scored at a high level (89.5%). A chi-square analysis showed that there was a difference between the groups' *correct* response rates ($\chi^2(3, N=204) = 8.56, p < 0.03$). None of the post hoc comparisons revealed any differences between the six possible pairings.

In their study, Yarmey and Jones (1983) suggest that the high score among the student 'jurors' may reflect their educational experience and that it would be worthwhile to test non-academic subjects to confirm the observation.

Another area of some concern to various researchers involves the problem of providing misleading or new information to the eyewitness (see Hollin, 1981; Loftus, 1979). Loftus (1979) observed that by providing misleading information, it is possible to ~~change~~ a person's belief from his/her original identification. Although there was no *correct* answer to this question³, it is still useful to note what people think the right answer is.

³Loftus (1979:176) notes that there is no *correct* answer to this question because "there is no way of knowing what the precise correct answer is."

Table 8 shows that 27.9% answered that "about half" of the ten witnesses "would still believe they had seen a green and gold cap rather than a blue and white one." Similarly, 27.9% of the respondents thought that "less than half" of the witnesses would still believe what they had seen originally. Nearly 31% of the respondents indicated that "more than half" of the witnesses would not be misled by the misinformation they had read in the newspaper. Among the groups, the psychologists chose the answer "less than half" more than any of the others (46.7%) while 31.6% of the lawyers chose the answer "about half". The student 'jurors' and police officers appeared to prefer the answer that said "more than half" of the witnesses would still believe what they saw despite the new information (33.8% and 35.3% respectively) by the police.

Another issue of concern to researchers in the area of eyewitness identification and testimony involves the procedure with which people are asked to recall what they had witnessed. Two of the techniques more commonly used include specific questioning and free recall (see Baddeley & Woodhead, 1983, for reviews). Research results generally indicate that free recall is usually superior for soliciting accurate memory recall than a procedure based on a formalized questioning procedure.

The results presented in Table 9 appear to reflect either a general misconception or lack of awareness about the effect of the questioning procedure used as only 28.4% of the 204 respondents chose the correct answer. Slightly more than 47%

felt that the specific questioning format is superior to the free narrative system. Of the four groups, the psychologists appear to be most aware of the fact that memory recall can be influenced by the nature or condition under which eyewitnesses are asked to describe what they saw. Although the overall response rate of correct answers was only 28.4%, the psychologists were correct 43.3% of the time, followed by the student 'jurors' (42.6%). The lawyers selected the correct answer only 23.7% of the time. The police officers were least often correct (10.3%). A chi-square analysis revealed that there was a difference between the four groups' correct response rates ($\chi^2(3, N=204) = 21.44, p < 0.01$). The post hoc comparisons showed that the correct response rates for the police officers was significantly less from that of the psychologists and the student 'jurors' ($\chi^2(1, n=98) = 13.99, p < .001$, and $\chi^2(1, n=136) = 18.28, p < .001$ respectively).

The low score by the police may be attributable to the fact that the police tend to use a structured questioning procedure when questioning eyewitnesses. The police felt very strongly (72.1%) that the asking of specific questions would provide better information than would a free recall procedure.

Cross-racial Identification

Although the issue of cross-racial identification has historically taken on more importance in the United States than in Canada as an area of investigation, it nevertheless

represents a popular and important area of study. Several investigators have shown that the possibility of error in identification increases when the eyewitness differs from the suspect in skin color and racial origin, (Elliot, Will, & Goldstein, 1973; Malpass et al., 1973).

When posed with a question involving cross-racial identification, the results in Table 10 indicate that the overall *correct* response rate was 59.3%. The psychologists chose the *correct* answer most frequently (76.7%) while the police officers identified the *correct* answer least often (48.5%). A chi-square analysis showed that there was a difference between the groups' *correct* response rates ($\chi^2(3, N=204) = 9.52, p < 0.02$). None of the post hoc comparisons revealed any differences between the six pairings.

An interesting anomaly to the type of response pattern witnessed is that 23.5% of the police officers indicated that they did not know which answer was *correct*. Also of interest was the observation that 15.8% of the lawyers chose "Other" for their answer. The lawyers' responses to this question were mixed. Two of the respondents felt that regardless of the race of the attacker, Chinese people are not as good at identifying as are Caucasians. Several other lawyers ($n=3$) responded by suggesting that both Chinese and Caucasian eyewitnesses would find it more difficult to identify an oriental attacker. One respondent even wrote: "The myth that all blacks look alike to white victims was exploded long ago."

Identification by Police

It has been suggested by some (see Elliot, Will, & Goldstein, 1973; Malpass et al., 1973; Yuille, 1984) that experience and/or training can improve one's ability as an eyewitness. Consequently, one might conclude that police officers, by virtue of their experience and training in the area of eyewitness investigation procedures should be superior eyewitnesses (see Yuille, 1984). Clifford (1976) and Tichner and Poulton (1975), however, have found that despite their training, police officers failed to perform any better on eyewitness tests than a sample of civilians.

Table 11 shows that none of the subject groups appeared to be very knowledgeable of the empirical findings which indicate that police officers do not necessarily make better eyewitnesses than civilians. It appears that the respondents generally believed that police officers, perhaps because of their training and profession, make better eyewitnesses than persons not specifically trained or experienced in eyewitness identification matters.

Across the four groups, only 13.7% of the respondents selected the correct answer which noted that both the "police officer and the civilian will be equally accurate". The psychologists and lawyers most frequently selected the correct response (26.7% and 23.7% respectively). A chi-square analysis indicated that there was a difference between the correct

response rates of the four groups ($\chi^2(3, N=204) = 11.14, p < 0.01$). Interestingly, most errors (74.0%) for all groups occurred on alternative "1" which indicated that the police officer would be the superior eyewitness. Knowledge about the ability of police officers as reliable eyewitnesses appears to be one area in which a misconception about eyewitness ability may exist and one of which the courts should be informed. The general notion of misconceptions will be discussed further in the General Discussion section.

In a similar vein to the question about eyewitness ability and police performance, Table 12 presents the results to the question concerned with the perceived difference in memory ability between a police officer and a retail person. Although there is no literature to support the assumption, it was assumed that both individuals would be equally accurate since their work requires them to be somewhat more adept at recognizing people and remembering faces and events than the average person. Again, as in the previous question, however, a majority of the respondents (52%) felt that the police officer would be more accurate than the retail person. Only 18.6% of the respondents chose the *correct* answer. Individually, the psychologists had the highest *correct* score (36.7%) while the student 'jurors' had the lowest *correct* response rate (11.8%). A chi-square analysis showed that there was a difference between the groups *correct* response rates ($\chi^2(3, N=204) = 9.88, p < 0.02$). The post hoc comparisons revealed that the psychologists response rate was

significantly greater from that of the student 'jurors' ($\chi^2(1, n=98) = 8.25, p < .004$).

The results indicate that people do have the misconception that police officers, through their training and experience, perform better as eyewitnesses than non-trained individuals. The results further indicate that people do believe that eyewitness performance can be improved through training. Since the evidence refuting this belief has not been unequivocally demonstrated, researchers should continue to explore the area. If it is possible to train people or to develop techniques which will assist them in performing more reliably as eyewitness, there would be obvious positive implications for the police. For example, people who have a good chance of having to call upon this skill (e.g., bank tellers, store clerks, gas station attendants, etc.) could be given special training. There have been several suggestions that, as with other skill acquisitions, certain types of personalities or professional experiences may make people better eyewitnesses (see Yarmey, 1979; Yuille & McEwen, 1985).¹⁴

¹⁴In an interesting study undertaken by Daw and Parkin (1981), it was found that neither the distinctive features task or the trait judgment task differentially influenced performance on an old-new recognition facial recognition test. They did find, however, that the trait recognition procedure was better for recalling the environmental context in which the face was viewed, suggesting a deeper level of processing. Contrary to speculation, the depth of processing is not related to time.

When witnessing a crime, the ability to recognize or recall the offender's face after the incident is perhaps the most important factor for increasing the chances of apprehension and conviction of the offender. A great deal of research has been done on people's ability to recognize or recall faces (for a general review of the differences between facial recognition and recall, see Loftus, 1979; Yarmey, 1979). As noted in Chapter V, our ability to recognize a face is usually better and easier than our ability to recall a face. This is due to the fact that recall is considered to be a more difficult memory process than recognition (Yarmey, 1979). A recent study by Yuille and Cutshall (1986), however, provides evidence to suggest that while recall and recognition may be affected by situational facts surrounding the event or by the format under which recall is solicited, the difference between recognition and recall may *not* always be in the direction that research has led us to believe.

Yuille and Cutshall (1986:12) identify three components of an eyewitness statement: "(1) person description; (2) object description; and (3) action details." They observed that when eyewitnesses were asked by the investigating police officer or researcher to recall what they had witnessed during a specific shooting incident, errors in object and people descriptions were overrepresented and errors in action descriptions were "underrepresented" relative to the frequency of those type of

descriptive details recalled" (p. 16).

Most of the literature on the subject, however, generally supports the finding that recognition for faces, even if only seen once before, has a slow decay period (Goldstein, 1977). When asked to respond to a question about eyewitness testimony and long term memory for a face seen only once, only 14.7% of the respondents *correctly* answered that it would take "6-12 months before a face seen only once before becomes indistinguishable from faces never seen before" (see Table 13). The response selected most frequently by the groups indicated their belief that the face would become "indistinguishable after about 2 weeks."

In terms of a breakdown of those who chose the *correct* answer, Table 13 shows that 23.3% of the psychologists answered the question *correctly*, 17.6% of the police officers, 10.5% of the lawyers, and 10.3% of the student 'jurors'. While the overall chi-square analysis did not reveal any differences between the four groups *correct* response rates, the post hoc paired comparisons showed that the police response rate was significantly less from that of the psychologists and the student 'jurors' ($\chi^2(1, n=98) = 8.64, p < .003$ and $\chi^2(1, n=136) = 10.64, p < .001$, respectively).

The overall *correct* response rate is in sharp contrast to the results found by Yarmey and Jones (1983). Their overall *correct* response rate was 45.2%. A possible explanation for this

marked difference may again be attributable to the wording of the question. While the answers were essentially identical, the question in Yarmey and Jones' study did not mention that the face had only been seen once, although this fact was repeated in each of their answers. The present study included the phrase "for faces seen only once" in the initial question. Perhaps the emphasis given in the question of only seeing the face once altered the respondents' perceptions of the question.¹⁵

Police investigations involving eyewitnesses sometimes rely on mugshots or photo-spreads to assist eyewitnesses in trying to identify the person(s) in question. Although the technique is fairly common among police departments, several researchers have questioned the investigative procedures used during photo-spread or line-up identification. In reference to identification procedures, Brown et al. (1977:317) observed that "(a)lthough mugshots might be useful for investigative purposes, we would tend to distrust indictments in situations such as those where witnesses had previously seen the suspects' mugshots." Table 14 presents the results of the question about whether a positive identification in a photo-spread is likely to lead to a positive identification in a line-up procedure. Brooks (1983) has noted that such practices are not uncommon in police investigations.

¹⁵Perhaps such a question might be useful in the section on "Question wording and Question format". In his review of the eyewitness literature, Brown (1986) stresses the importance of the relationship between recognition and having seen a face only once (briefly) before. But as Brown, Deffenbacher, and Strugill (1977:317) conclude: "(t)he difference in viewing time is probably not terribly critical" even for faces only seen once before.

Some researchers (Brown et al., 1977; Deffenbacher, 1980) suggest that memory for faces can be affected by the different situational contexts in which they are seen. Yarmey and Jones (1983), in their eyewitness questionnaire study, observed that all sixteen of the experts responded to the question correctly by indicating that the person identified in the photo-spread is *likely* to be identified in the line-up as well.

In the present study, the overall rate of *correct* responses was slightly lower (61.3%) than that of Yarmey and Jones (67.6%). As with the findings of Yarmey and Jones (1983), the *correct* response rate for this question was higher than for the previous question on memory decay and face recognition as presented in Table 14. Both the lawyers (89.5%) and psychologists (76.7%) appear to be more aware than the other groups that a positive identification in a photo-spread is likely to lead to the same identification in a line-up situation. The chi-square analysis indicated that there was a difference between the groups' *correct* response rates ($\chi^2(3, N=204) = 24.99, p < 0.01$). Post hoc mean comparisons using chi-square analyses revealed that the police officers' score (44.1%) was significantly less from that of the *correct* response rate for the psychologists and lawyers ($\chi^2(1, n=98) = 8.88, p < .003$, and ($\chi^2(1, n=100) = 20.96, p < .001$ respectively) and that the response rate of the student 'jurors' (55.9%) was significantly less from that of the lawyers ($\chi^2(1, n=136) = 12.62, p < .001$).

Of practical interest was the fact that 26.5% of the police officers believed that a positive identification in a line-up would not have been affected by the previous photo-spread. As noted earlier, this belief may be based on police practices (see Yuille, 1984). The low *correct* response rate by the police to this question points to the need for future investigators to examine the issue more closely. The findings of such a study could have implications for police eyewitness investigation procedures. In the meantime, police departments might consider scrutinizing their eyewitness identification practices. If such practices (photo-spread followed by line-up identification) are common, then the possibility of false identifications may be increased.

The results presented in Table 15 provide the breakdown of the responses to the question dealing both with memory for faces under less than ideal conditions and eyewitnesses' confidence in their statements. Research indicates that situational factors, such as poor lighting conditions, can negatively affect the accuracy of an eyewitness' memory regardless of the eyewitness' expressed level of confidence in his/her response. Although not unanimous, the psychologists appeared to be fairly well informed of the fact that one's level of confidence is seldom positively correlated with eyewitness identification accuracy. Slightly over 63% of the psychologists chose the *correct* answer as compared to 55.3% of the lawyers, 51.5% of the student 'jurors', and 38.2% of the police officers. Overall, the respondents chose

the *correct* answer in nearly 50% of the cases.

Although the groups' response rates were not statistically different from one another, given the police officers' low scores for the questions summarized in Tables 14 and 15, further investigation with regard to police perceptions about eyewitness identification abilities and eyewitness investigation practices is strongly encouraged (see Yarmey, 1986).

The issue of whether black-and-white photos are superior to color photos for identification purposes has prompted several investigations. When photo identifications were first introduced, they were all in black-and-white; but today, the use of black-and-white mugshots is becoming less common. Research on eyewitness identification indicates that facial recognition is generally superior when color pictures are utilized as opposed to black-and-white photos. Table 16 presents a summary of the responses to the question concerned with recognition of faces in a photo-spread which was either in color or in black-and-white. Although a modest majority of the respondents appeared to be informed of these research findings (58.3%), 21.1% felt that recognition would be the same regardless of the type of picture. Interestingly, the lawyers chose the *correct* answer most frequently (73.7%), followed by the police officers (64.7%), the psychologists (53.3%), and lastly, the student 'jurors' (45.6%). A chi-square analysis revealed that there was a difference between the groups' *correct* response rates ($\chi^2(3, N=204) = 9.67, p < 0.02$). Subsequent paired comparisons using chi-square

analyses indicated that the *correct* response rate for the student 'jurors' was significantly less from that of the lawyers ($\chi^2(1, n=100) = 7.79, p < .005$).¹⁶

Finally, another area of investigation on memory for faces has involved comparing the use of full-face frontal and profile views (the traditional method) with frontal views and three-quarter facial profiles. It is speculated that since some eyewitnesses may not see the offender from the front and only obtain a profile view, the respondents might consider the latter method to be superior to the traditional method used by the police for facial recognition. This view has, in part, been supported in the literature. Baddeley and Woodhead (1983) found, for example, that frontal and three-quarter profiles can increase the likelihood of a positive identification over a simple frontal view.

Table 17 indicates that only 29.4% of all the respondents *correctly* indicated that "the person viewing the full-face and three-quarter set of photos would have a better chance at recognizing the robber than the person viewing the full-face and profile picture." The psychologists were the most frequently (43.3%) *correct* group while the student 'jurors' were the least often *correct* (23.5%). The answer selected most frequently

¹⁶Before the survey results can be generalized to a field situation, we need to determine whether situational factors might have an impact on the effectiveness of color versus black-and-white photos. For example, are the original viewing conditions important? Does it make a difference whether the eyewitness saw the offender under well lit conditions or in a poorly lit setting?

(43.6%), however, expressed the belief that whichever set of photos were used, the chances for identification would be equal. The results may reflect a bias of habit and/or tradition. That is, because we see full-face procedures used in crime shows/movies and the police have used the full-face photo-spread approach for several decades, it could be that we have simply come to assume that it is the best technique.

Subjective Confidence

Based on a thorough review of the literature, Wells and Murray (1984) observed that there is usually no reliable relationship between an eyewitness' level of confidence in the accuracy of his/her testimony and its validity. Researchers, such as Loftus (1979), have suggested that this is primarily due to the fact that there are many intervening variables about which the average lay person is not aware (e.g., stress, age, gender, race, questioning format, etc.). According to Wells and Lindsay (1983), among others, some eyewitnesses are quite confident about the accuracy of what they remember. Most laboratory research, however, indicates that there is minimal, if any, relationship between confidence and the accuracy of memory recall or recognition (see Wells et al., 1979; Wells & Murray; 1984).

When asked to respond to the question concerning eyewitness testimony and subjective confidence none of the groups' responses were statistically significant from one another.

Nevertheless, Table 15 shows that a majority of the student 'jurors' (51.5%), lawyers (55.3%), and psychologists (63.3%) *correctly* indicated that confidence is not related to the accuracy of memory recall or recognition. The police officers were the only group (38.2%) who did not have a majority of *correct* responses.

Interestingly, 26% of all the respondents felt that the confident person was "more likely to be accurate than the less confident person." This overall score was skewed by the fact that 47.1% of the police officers chose this answer while the average for the other three groups was only 13.6%.

The general lack of overwhelming agreement about what the *correct* answer is appears to support the finding that people tend to believe that subjective confidence and accuracy of testimony are related and that situational factors surrounding how or when the event was witnessed may not be relevant. Some tentative support for this assertion comes from the recent study conducted by Yuille and Cutshall (1986). They found that confidence and accuracy were more highly related than reported in other studies (see Deffenbacher, 1980, for a review of some of the studies reporting contrasting findings). They suggest, however, that the difference may have been due "to factors usually absent in experimental research: a particular salient event with obvious life and death consequences, and the opportunity for active involvement by some witnesses" (p. 27). They conclude by noting that eyewitness memory may not be as

fallible as once suspected and that confidence may be more important than suggested, as long as the conditions surrounding the event are understood (also, see Brigham, Maass, Snyder, & Spaulding, 1982; Yuille, 1984).

With regard to subjective confidence and accuracy, Yuille and McEwen (1985) offer another point for consideration. To offer an explanation for the difference in their results from those of other researchers, they suggest that a "possible mediator of these findings is that confidence ratings reflect a more general personality trait. That is, people who are more expressive in their responses, more readily rate themselves as confident" (p. 399). If true, then not only should future research partial out personality dimensions (see Yarmey, 1979; Yuille & McEwen, 1985), but such research may support the general view that since many professions exude certain behavioural or professional stereotypes, their personality characteristics may affect the confidence/accuracy of identification relationships. The police, for example, are trained to be strong and self-confident in performing their duties. They need to be confident in their daily activities in order to carry them out and to ensure respect from the public. These possible stereotyped personality traits appear to have been reflected in their level of confidence across all of their answers. Although, comparatively, the police officers had the fewest number of *correct* answers, overall they expressed the greatest amount of confidence in their answers when they were

correct (69.7%) (see Table 2).

Lawyers are similarly trained to be self-assured and must be confident in order to help their clients and to have their clients perceive them as competent lawyers. In addition, they are trained to be able to defend and support their views. Of the four groups, the lawyers' expressed level of confidence (options 1 & 2) was second highest overall (67.5%). And as expected, the psychologists had the lowest percent of respondents who expressed strong confidence in their answer when correct (38.7%). Psychologists, like other social scientists, are trained to be skeptical and to realize that in the social sciences, few things are truly known and, at best, "facts" represent probabilities. Therefore, despite their level of informedness, they are sensitive to the fact that evidence about eyewitness identification and testimony issues is inconclusive, and even when used, must often be qualified. In addition, psychologists may be sensitive to selecting the extreme scores (e.g., "very confident" or "not at all confident"); being conservative is almost synonymous with being a social scientist. These issues would appear to represent another area worthy of further investigation.

The Elderly as Eyewitnesses

Yarmey and Jones (1983:29) noted that "little or no information was published on the performance of the elderly as eyewitnesses." However, research on the aged, in general,

suggests that as people age, their perceptual and motor skills progressively deteriorate. If true, it would appear logical to assume that elderly eyewitnesses are, for the most part, inferior to young adults, in both recall and recognition ability. Yarmey and Kent (cited in Yarmey & Jones, 1983:29), however, found that while the elderly were inferior to young adults with regard to recall, they were equally accurate in recognizing a criminal suspect.

Table 18 shows that only 10.8% of all the respondents demonstrated an awareness that an elderly witness is unlikely to be as accurate in verbally describing a criminal event as a younger person would be. The psychologists had the highest correct response rate (13.3%), followed by the student 'jurors' (11.8%), while the lawyers were least aware of what the correct response was (7.9%). None of the groups response rates were statistically significant from one another.

The answer selected most frequently (40.2%) expressed the belief that the elderly person is likely to "be just as accurate in describing the details of the events as a younger person."

Table 19 shows that the results to the question which addressed the differences in recognition memory between the young and the elderly. A majority of the respondents (61.8%) chose the correct answer which stated that both the young and the elderly woman would be "equally good at recognizing the criminal." Contrary to expectations, the police officers were

most frequently *correct* (73.5%). They were followed by the psychologists (66.7%), then the student 'jurors' (52.9%), and finally the lawyers (52.6%). The chi-square test revealed that there was a difference between the groups' *correct* response rates ($\chi^2(3, N=204) = 7.87, p < 0.04$). None of the post hoc paired comparisons revealed any statistically significant differences.

The results in Table 20 indicate that most respondents appear to realize that among the elderly, there is a difference between their recall and recognition ability. Almost 65% *correctly* indicated that the elderly person, despite not being able to describe the criminal to the police shortly after the crime, would be able to recognize the criminal later in a photo-spread. The psychologists were the most frequently *correct* group (73.3%) while the lawyers were the least often *correct* group (55.3%). What is not exactly clear is whether the respondents were answering the question with regard to the eyewitness' age or the difference between the types of memory being tested. If this question were used in the future, investigators might consider rewording the question so that it would not be "double-barrelled".

The scores presented in Table 20 are noticeably different from those of Yarmey and Jones (1983). Not only was their overall *correct* response rate higher (77.2% vs. 64.7%), but the difference in the results between the legal professionals (82% vs. 55.3%) and the student 'jurors' (78% vs. 58.8%) appear to be

fairly pronounced. Given the discrepancies between the two studies' findings more work needs to be done in this area before any generalizations can be drawn.

Children as Eyewitnesses

Section 586 of the Canadian Criminal Code says that "No person shall be convicted of an offence upon the unsworn evidence of a child unless the evidence of the child is corroborated in a material particular by evidence that implicates the accused."

In certain criminal cases, a child may be the only witness (eyewitness) to the crime, and since eyewitness testimony is considered opinion evidence, the reliability of such testimony by a child may further complicate the processing of the case.¹⁷

A great deal of research has been done on the reliability or truthfulness of a child's testimony. In Canada, testimony of children "of tender age" (namely, a child under 14) is governed by sec. 16 of the Canada Evidence Act which provides that if one of the key officers of the court does not feel that "the child is possessed of sufficient intelligence to justify the reception of the evidence, and understands the duty of speaking the truth", the evidence may be received but not given upon oath. Therefore, the law essentially assumes that a child's testimony

¹⁷This issue is especially crucial in cases of child sexual abuse where it is not always clear whether a young person can be deemed legally competent to testify.

is at best only partially reliable.¹⁸

Research evidence on the effect of questioning children who witness an event suggests that they are more likely than adults to respond in a manner which they think the questioner (authority) wants them to respond. Table 21 indicates that with the exception of the police officers, the other groups were fairly uniform in believing that children can be unduly influenced by an authority figure. Overall, 48% chose the *correct*, with the psychologists choosing the *correct* answer most frequently (53.3%) and the police officers choosing the *correct* answer least often (38.2%). None of the group's mean scores were statistically significant from one another.

Nearly 30% of the all respondents felt that the child would likely reply accurately. That is, the child would tell the truth as they believed it to be. Yarmey and Jones (1983) made a similar observation. They suggest that because a fairly large proportion of people believe that children will tell the truth when questioned by an authority figure, this may be a cause for concern since the testimony by a child may be inaccurately perceived by lawyers and jurors. There is, however, some empirical support for the possibility that a child would reply accurately. Cane, Finkelstein, and Goetze (1979), for example, reported no significant differences in identification accuracy

¹⁸If a jury is present when such testimony is given and they are later instructed not to use the testimony when making their decision, there is some question as to whether or not the jury actually can disregard the testimony (see Wissler & Saks, 1982).

between a group of elementary school students and junior high school students. They also found that although only 21 percent of all the children were able to pick out the photograph of the thief, this success rate was only marginally lower than that of an adult group (25.0%) in a similar study. Given our growing concern with child sexual abuse, the area of memory and responses by children should be examined in greater detail. This point is made quite succinctly in a recent article by King and Yuille (1986).

Voice/Earwitness Identification

Eyewitness identification is not the only form of opinion evidence that might be used in court. Clifford (1983) and D'Angelo, Jr. (1979) reviewed a number of instances in which voice identification evidence has been successfully used against accuseds in several legal cases in the United States. Clifford's article also presents some of the relating to the reliability of such testimony and as well, he identifies a number of conditions which affect the accuracy of voice identification. For example, several researchers have found that voice identification is accurate only if the speaker talks in the same tone of voice on both the initial presentation and the identification test (e.g., Saslove & Yarmey, 1980). Clifford et al. (1980) and McGehee (1937) found that voice identification is related to time delay; that is, identification is more accurate within minutes of first hearing the voice as opposed to 24-hours later. Other findings have shown that: identification of the gender of a speaker is

usually very accurate; there seems to be little evidence of cross-racial problems in speaker identification; and age does appear to affect voice identification ability - the very young and old are less accurate than middle-aged earwitnesses. Clifford (1983:214) concludes that voice identification "by a witness concerning a stranger should be treated with the utmost caution, both in its informational and its evidential aspects."¹⁹

Table 22 reveals that 28.4% of all the respondents answered "Don't know" to the question about whether a witness who overhears a robbery being committed can later identify the robber by listening to him speak. This was the highest "Don't know" response rate of all the questions. It would appear that intuitive knowledge about voice identification may be somewhat more limited than knowledge about eyewitness variables. Only 37.7% correctly indicated that if "the robber speaks in the same tone of voice during the identification as he spoke during the robbery", a positive identification could be made. The student 'jurors' were most frequently correct (42.6%) while the lawyers were the least well informed about the research findings (28.9%).

An interesting observation was the fact that 21.4% of the respondents felt that if the voice were heard within minutes

¹⁹Lord Devlin (1976) recommended that it was not fair to ask witnesses to identify a voice from people who appear in a lineup on the basis of their visual similarity to the witness' description, even though this is done by the police during lineup identification procedures.

rather than 24-hours later, a positive identification could be made. This suggests that perhaps the respondents believe that voice recognition is part of short-term memory. Yarmey and Jones (1983) note that, given available research evidence, the latter answer may also be correct. Further inquiry, however, is necessary before the latter answer can be considered reliable.

Of the four groups, the lawyers chose the latter option most frequently (28.9%), which was the same score as for those lawyers choosing the answer considered more correct.

Training and Eyewitness Ability

Throughout the years, various training procedures have been developed to assist individuals (especially police officers and bank tellers) in becoming better eyewitnesses. Most of the techniques developed to improve recognition have emphasized attention to particular facial features (e.g., eyes, ears, nose, mouth and chin). This procedure for improving facial recognition has been strongly influenced by the work of by Penry (1971).²⁰

Until fairly recently, the traditional training procedures were left unchallenged. During the late 1970s, however, Patterson and Baddeley (1977) and Woodhead et al. (1979) began to explore a different composite technique for improving eyewitness memory since the traditional feature oriented technique had come under some criticism from a number of

²⁰See Chapter V for a general review of some of the techniques and methods which have been developed.

researchers (Allison, 1973; Ellis et al., 1975, 1978). Their procedure was based on a holistic approach.²¹ Their research provided some support for the possibility that people may be better at recognizing faces when their attention is focused on some holistic assessment rather than when their attention is drawn to specific facial features. The results, however, have generally been mixed. Not being able to resolve the question empirically, Baddeley and Woodhead (1983:36) conclude by suggesting: "the way we encode faces is so overlearned that there may be little we can do to affect it...improving face recognition by thinking...an unpromising line of research."

The question referred to in Table 23 focuses on the difference between using a feature oriented composite technique to facilitate recognition and a procedure which emphasizes focusing on personality characteristic (holistic) to assist with later facial recognition. Based on Baddeley and Woodhead's comments, the *correct* answer was considered to be: "tellers trained to recognize specific features would do better at recognizing the robber than the group trained to focus on personality characteristics" (see option number 2). A majority (72.5%) of the respondents selected this answer as the *correct* one. Given the mixed research findings, however, it appears that answer number 4, "training would not make any difference...", may also be an accurate response option. However, only 4.4% of all the respondents chose the latter option as their *correct*

²¹This technique is reviewed in Chapter IV.

Even though the rate of response to the *correct* answer was fairly high, given the mixed research findings, the response pattern may simply reflect a misconception people have about how we can improve our recognition ability. Before we accept Baddeley and Woodhead's earlier conclusion about eyewitness training representing an unpromising line of research, further inquiry in this area is strongly recommended. The implications of a useful, eyewitness training method are only too self-evident.

Along similar lines, Table 24 shows that none of the groups expressed a strong awareness about the difference between recall ability for those trained in the traditional method (feature oriented recall) and those trained how to freely narrate what they had witnessed (see Christie & Ellis, 1981). Only 28.9% *correctly* 'knew' that the person trained how to freely narrate what he/she had seen "would provide" better information for identification than the visually trained person" (feature recall).²³

Forty percent of the psychologists chose the *correct* answer while only 23.5% of the police officers chose the *correct*

²²Only option number 2 was used to represent the *correct* answer. Statistically, no significant differences between the four groups' response rates was observed.

²³Geiselman, Fisher, Mackinnin, & Holland (1985) have developed a narrative technique for recall which they refer to as the "cognitive interview" process. Their findings suggest that unaided recall (free narration) tends to be more reliable than structured recall (e.g., specific feature narration).

answer. Interestingly, 27% of all the respondents felt that the person trained to remember specific facial features for later recall would be better than the person trained how to verbalize what he/she had witnessed.

While the evidence surrounding this issue is not conclusive, it appears that although most of the respondents believe that training can have an impact, they are not as certain which training procedure is superior.²⁴ The results further suggest that knowledge about such issues may be much less intuitively based than it is learned or formulated, based on experience (Baddeley & Woodhead, 1983). This point will be addressed again in the General Discussion section.

Expert Psychological Testimony, Juries, and Judges

The final section of the questionnaire dealt with courtroom procedures. First, respondents were asked whether or not expert psychological testimony should be allowed in a court of law. They were then asked what role the jury and judge should play when dealing with such evidence. These questions were included because they address some of the controversial procedural matters which are being challenged and debated by legal professionals and examined by social scientists.

²⁴It may also be that even though the questionnaire was pilot tested for clarity and coherency, the wording question is a little confusing. This observation was made after the data had been collected. Therefore, the responses may not be very reliable. Interestingly, however, while other problems concerning various questions were occasionally identified, none of the respondents appeared to notice the problem with this question.

Much of the literature on these issues, to date, has been written by psychologists. (see Bray & Kerr, 1983; Egeth & McClosky, 1983; Loftus, 1979, 1983; Yarmey, 1979; Wells, 1984). With regard to the participation of eyewitness experts in the courtroom, a majority of the commentary has been in favor of allowing experts to testify. Even though the arguments in favor of allowing experts to testify in court have outweighed those which maintain eyewitness experts should not be permitted to testify, most of the discussions reflect a strong awareness of the practical and ethical difficulties involved with using an eyewitness expert in the legal system. For example, while Loh (1981, cited in Loftus, 1983:301) supports the use of expert testimony in court, he notes "some of the difficulties the legal system has in dealing with the generalized or probabilistic information offered by experts." Similarly, Judge Bazelon (1982:115) points out that the role of psychology in both law and public policy is "mushrooming". Bazelon argues that although psychologists have had a controversial and unstable relationship with the legal profession, they must realize how important they are to the court. One of his concluding comments states that "(s)ocial science can force us to question our common sense and confront the phantoms we would rather shove aside" (p. 120).

With regard to the respective role of judge and jury, research indicates that juries can benefit from informed instruction about eyewitness issues (Lind, 1983; Saks, 1983; Sales et al., 1977) and that judges would probably benefit from

using standard guidelines with which to instruct juror's about the accuracy and reliability of an eyewitness' testimony (Kaplan, 1983; LRC, 1980).

A 2 X 4 chi-square analysis indicated that there was a difference between the groups responses on whether or not a "psychologists experienced in eyewitness research should be regularly allowed to testify in a court of law" ($\chi^2(3, N=204) = 33.12, p < 0.01$). Individually, the police officers (29.4%) represented the only group who generally felt psychologists should not be allowed to testify regularly in court. The discrepancy in the results between the police officers and the other groups may reflect the strong level of confidence police officers expressed in their own level of awareness about eyewitness issues and the trust they placed in a lay person's ability to act as a reliable eyewitness.

With regard to the question about "how much faith...the jury should place on" eyewitness testimony if it were "the only source of evidence to the court", the most frequent response stated that the "jury should be skeptical" about such evidence (52.2%). As with the previous question, the police officers were the only group (22.1%) who did not select the former answer as their primary choice. Instead, 58.8% of the police officers felt the "jury should be trusting of the evidence and have minimal difficulty in making their decision" (see Table 26 for further details). A chi-square analysis of the responses indicated that there was a difference in the responses across the four groups

($\chi^2(12, N=204) = 81.74, p < 0.01$). The lawyers felt most strongly (68.3%) about the jurors being skeptical about any eyewitness evidence while the police officers (22.1%) felt least strongly that jurors needed to be skeptical about an eyewitness's testimony if it were the only source of evidence to the court. The results are similar to those of Brigham and Bothwell (1983).

The final question summarized in Table 26 dealt with the issue of whether "a judge should be responsible for cautioning the jury about any possible limitations of an eyewitness' testimony?" Chi-square analysis indicated that there was a difference between the groups' responses to whether or not the judge should instruct the jury about eyewitness issues ($\chi^2(3, N=204) = 16.09, p < 0.01$). The lawyers showed high agreement (97.3%) while the police officers reflected the lowest agreement (66.2%). It was interesting to note that nearly 46% of the lawyers took time to comment that judges virtually always instruct the jury about any possible limitations of an eyewitness' testimony, but none of them explained the extent to which a judge will caution the jury about the nature of such evidence.

Summary

Twenty-two items of the questionnaire were designed to explore the beliefs and intuitions of four different groups. The

groups were selected on the basis of their perceived level of informedness about eyewitness issues as reported in the literature. The four groups included: 68 police officers, 38 lawyers, 30 psychologists, and 68 student 'jurors'.

In order to decide whether, or under what conditions, eyewitness *experts* should be permitted to testify in court, we need to improve our understanding of how, and perhaps why, different populations perform and respond differently on questions regarding eyewitness issues. Knowledge in this area can also help us to identify who is misinformed about what specific eyewitness issues. The police, for example, appear to have the most misconceptions about the ability of eyewitnesses; and contrary to their beliefs, they are not superior to non-police in knowledge relating to eyewitness variables. In essence, the questions in Experiment 1 were designed to test the extent to which intuitive beliefs about the elements involved in eyewitness testimony are sufficiently similar to the findings reported in the literature. If this common-sense knowledge is similar to the evidence provided in the literature then an argument could be made about the limited role which expert psychological testimony could serve in the administration of justice. However, if the results from the groups considered to be less informed do not coincide with the empirical evidence then an argument can be made for the inclusion of expert testimony in the courtroom.

Based on the overall low correct response rate ($M=9.78$) among the four groups, it is generally concluded that knowledge about eyewitness issues is not intuitively known. The results were generally consistent with the literature (e.g., Brigham & Wolfskeil, 1983; Deffenbacher & Loftus, 1982; Loftus, 1979; & Yarmey & Jones, 1983). Individual item analysis, however, revealed that certain groups may be better informed than expected and, in some cases, more misinformed about certain aspects relating to eyewitness testimony. For example, while the police officers performed well on questions regarding stress, age, and question wording, they were less well informed about their own abilities as reliable eyewitnesses. The student 'jurors' on the other hand performed well on questions regarding stress, time estimation, question wording, subjective confidence, voice identification, and feature vs. holism recognition training. Overall, the police scored significantly lower than one or more of the other groups on seven of the questions while the psychologists scored significantly higher than one or more of the groups on 5 of the questions.

The results to the last three questions in the questionnaire show that the respondents generally support the use of expert psychological testimony in court. They also believed that it was important to have the presiding judge instruct the jury about any limitations surrounding eyewitness issues.²⁵

²⁵The police officers had the only set of responses which did not support the general pattern of observations about the use of expert psychological testimony, role of the jurors and role of the presiding judge. This difference will be discussed further

Overall, the results provide support for the observation that intuitive knowledge about eyewitness issues may not a reliable substitute for expert testimony. Therefore, there need to be safeguards throughout the legal system to protect against misinterpretation of and over-reliance on eyewitness evidence by the court and jurors, as well as safeguards against inappropriate pre-trial evidence gathering by the police.²⁵

Experiment 2 is designed to explore further some of the issues concerning judicial practices and procedures that were dealt with in Experiment 1. For example, how does the type and temporal orientation of judicial instruction affects jury decision-making? The design will also enable the examination of some of the system and estimator variables which were surveyed in Experiment 1. Finally, through Experiment 2, it will be possible to observe the decision-making processes of jurors acting individually or as a group.

²⁵(cont'd) in the General Discussion section.

²⁶Before this recommendation can be supported, however, "experts" should be used to complete the survey in order to enable reliable generalizations to be made.

Table 1 General background characteristics of the subject groups

Characteristics	Range	Mean Years
Subject groups		
	n/a	n/a
Years of experience in present profession		
- Student jurors	1-23	6.5
- Lawyers	1-39	11.6
- Psychologists	2-26	11.2
- Police officers		
Age group Percent of Mean(1)		
	Age group	group
	21-30	67.6
	31-45	73.7
	31-45	53.3
	31-45	58.8
		1.8
		2.9
		3.2
		2.7
Sex		
	% (N) Males	% (N) Females
	58.8 (40)	41.2 (28)
	71.1 (27)	28.9 (11)
	53.3 (16)	46.7 (14)
	88.2 (60)	11.8 (8)
	70.1 (143)	29.9 (61)
Overall average (Total N)		

(1) Scale ranges: 1-"21-30", 2-"31-39", 3-"40-49", 4-"50-59", 5-"60+"

Table 2 Summary of perception of informedness, "correct" score, and confidence rating by subject group

	Subject groups				
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	Row Average Percentage
- Percent/mean who felt "well informed" (options 1 & 2) about eyewitness testimony issues	13.2/2.94	37.8/2.82	10.0/3.53	36.8/3.57	24.4/3.21
- Avg percent of "correctly" answered questions	47.1	47.8	54.7	41.7	46.6
- Mean number of "correct" answers	9.89	10.05	11.5	8.76	9.78
- Range	3-14	5-15	2-17	4-14	2-17
- Percent of respondents who felt "very confident" (options 1 & 2) with their answers which were "correct"	48.6	67.5	38.7	69.7	56.1
- Pearson correlation between mean "correct" and Confidence rating	0.28*	0.07	-0.24	0.27*	0.21*
- Percent who felt "very confident" with (options 1 & 2) their answers even though they were not the "correct" answers	42.2	55.6	38.8	63.1	49.9

* significant at .05 or better

Table 3 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and stress

"When a person is experiencing extreme stress as the victim, there will be:"

Answers	Subject groups				Row Percentage
	Student Jurors' (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. Generally a greater ability to notice and remember the details of the event.	4.4	5.3	0.0	8.8	5.4
2. Generally the same ability to notice and remember the details of the event as under normal conditions.	1.5	7.9	3.3	1.5	2.9
3. A majority of people will become better at perceiving and recalling crime details whereas others will become worse at it.	8.8	28.9	10.0	16.2	15.2
4. Generally a reduced ability to perceive and recall the details.**	80.9	47.4	80.0	69.1	70.6
5. Don't know.	4.4	5.3	6.7	1.5	3.9
6. Other.	0.0	5.3	0.0	1.5	2.0

* 'Correct' answer.

** $\chi^2(3, N=204) = 14.69$ $p < 0.01$.

Table 4 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and violence

"Suppose that a man and a woman both witness two crimes. One crime involves violence while the other is non-violent. Which statement do you believe is more true?"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. Both the man and the woman will remember the details of the violent crime better than the details of the non-violent crime.	50.0	21.1	20.0	47.1	39.2
2. Both the man and the woman will remember the details of the non-violent crime better than the details of the violent crime.	14.7	23.7	36.7	25.0	23.0
3. The man will remember the details of the violent crime better than the details of the non-violent crime.	7.4	5.3	0.0	5.9	5.4
4. The woman will remember the details of the violent crime better than the details of the non-violent crime.	5.9	7.9	6.7	5.9	6.4
5. Don't know.	16.2	26.3	36.7	14.8	19.6
6. Other.	5.9	15.8	0.0	4.4	6.4

* Correct answer.

Table 5 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and weapon focus

Consider a situation in which a person is being robbed. The robber is standing fairly close to the victim and is pointing a gun at him/her. The victim later reports to a police officer, "I was so frightened, I'll never forget that face." Which of the following do you feel best describes what the victim experienced at the time of the robbery?

Answers	Subject groups				
	Student Jurors' (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	Row Percentage
1. The victim was so concerned about being able to identify the robber that he/she didn't even notice the gun.	0.0	2.6	0.0	0.0	0.5
2. The victim focused on the robber's face and only slightly noticed the gun.	13.2	28.9	16.7	22.1	19.6
3. The victim got a good look at both the gun and the face.	22.1	10.5	30.0	29.4	23.5
*4. The victim focused on the gun which would interfere with his/her ability to remember the robber's face.	58.8	36.8	46.7	45.6	48.5
5. Don't know.	2.9	18.4	6.7	2.9	6.4
6. Other.	2.9	2.6	0.0	0.0	1.5

* 'Correct' answer.

Table 6 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and duration of event

"Suppose an armed robbery took place in a grocery store. The entire incident lasted four minutes. If ten people saw the robbery and were asked how long it had taken:"

Answers	Subject Groups					Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	Row	
1. In general, they would overestimate the duration of the crime **	79.4	86.8	76.7	58.8	73.5	
2. In general, most would underestimate the duration of the crime	13.2	5.3	10.0	30.9	17.2	
3. Overall, the estimates would be very close to four minutes	1.5	5.3	0.0	5.9	3.4	
4. Don't know	5.9	2.6	13.3	4.4	5.9	
5. Other	0.0	0.0	0.0	0.0	0.0	

* Correct answer

** $\chi^2(3, N=204) = 12.37, p < 0.01$

Table 7 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and question wording

Suppose a person witnesses a serious car accident and they are asked one of the following questions about it, either: (1) "Did you see A broken headlight?" OR (2) "Did you see THE broken headlight?" Would it make any difference which question the witness was asked?

Answers	Subject groups					Row Percentage
	Student Jurors' (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	Row	
1. No, since the witness would know whether or not they had seen a broken headlight.	4.4	0.0	0.0	8.8	4.4	
2. No, since there is no important difference between the two questions.	2.9	0.0	0.0	1.5	1.5	
*3. Yes, even a slight difference in question wording such as that here might affect the witness' accuracy in responding.**	86.8	89.5	90.0	72.1	82.8	
4. No, slight differences in question wording would have no important influence on the witness' accuracy when responding.	5.9	5.3	3.3	13.2	7.8	
5. Don't know.	0.0	0.0	3.3	4.4	2.0	
6. Other.	0.0	5.3	3.3	0.0	1.5	

* 'Correct' answer.

** $\chi^2(3, N=204) = 8.56, p < 0.03$.

Table 8 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and mistaken information

Suppose that a very serious mugging incident occurred in front of ten witnesses. The witnesses were generally upset but thought they saw the mugger had been wearing a green and gold baseball cap. The witness later read about the mugging in a local paper. The newspaper account mistakenly reported that the mugger had been wearing a blue and white cap. How many of the witnesses do you think would still believe they had seen a green and gold cap rather than a blue and white one?

Answers	Subject groups					
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	Row Percentage	Percentage
1 None	0.0	0.0	0.0	2.9	1.0	1.0
2 Less than half	29.4	13.2	46.7	26.5	27.9	27.9
3 About half	26.5	31.6	26.7	27.9	27.9	27.9
4 More than half	33.8	28.9	16.7	35.3	30.9	30.9
5 Don't know	8.8	23.7	6.7	5.9	10.3	10.3
6 Other	1.5	2.6	3.3	1.5	2.0	2.0

.. No correct answer.

Table 9 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and recognition by varying the questioning format: specific questions vs. free recall.

"Suppose two young people, with equal ability, had just witnessed a crime. Both were later separately asked by authorities to describe the event. One was asked to freely narrate what they saw while the other person was asked specific questions about the event. Which statement do you feel would best describes the results?"

Answers	Subject groups			
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)
1. The person asked the specific questions would provide better information for identification than the person who was asked to freely describe what they saw.	35.3	39.5	26.7	72.1
2. The person asked to freely describe what they saw would provide better information than the person who was asked specific questions.	42.6	23.7	43.3	10.3
3. Both individuals would do equally well at recalling the events.	8.8	15.8	6.7	13.2
4. Because of the presence of an authority figure neither person would be able to provide very good information.	5.9	0.0	0.0	1.5
5. Don't know.	5.9	10.5	10.0	2.9
6. Other.	1.5	10.5	13.3	0.0

* Correct answer.

** $\chi^2(3, N=204) = 21.44, p < 0.01$.

Table 10 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and cross-race identification

"Two female students are walking to school one morning. One of them is a Canadian Chinese and the other, a white woman. Suddenly, two men, one Chinese and the other white, jump into their path and attempt to grab their purses. Later, the women are shown photographs of known purse snatchers in the area which statement best describes your view of the women's ability to identify the purse snatchers?"

Answers	Subject Groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1 Both women will find the white man harder to identify than the Chinese man	8.8	0.0	3.3	5.9	5.4
2 The white woman will find the Chinese man more difficult to identify than the white man	55.9	71.1	76.7	48.5	59.3
3 The Chinese woman will have an easier time than the white woman making an accurate identification of both men	11.8	7.9	10.0	14.7	11.8
4 The white woman will have no difficulty in identifying either the white man or Chinese person	1.5	0.0	0.0	0.0	0.5
5 Don't know	7.6	5.3	6.7	23.5	15.7
6 Other	4.4	15.8	3.3	7.4	7.4

* Correct answer

** X²(3, N=204) = 9.52, p < .02

Table 11 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and the police

"Two men, one of whom is an experienced police officer, are walking together in front of a large store window. Through this window they see two men, one black and one white, robbing the store owner. The two robbers escape and the two witnesses are shown a number of mugshots of known thieves. Which statement best describes your view of the two men's abilities to identify the robber."

Answers	Subject groups			
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)
1. The police officer will be superior to the civilian in identifying both robbers.	76.5	73.7	60.0	77.9
2. The civilian will be superior to the police officer in identifying both robbers.	1.5	0.0	3.0	0.0
*3. The police officer and the civilian will be equally accurate in identifying the robbers.**	7.4	23.7	26.7	8.8
4. The police officer will be superior in identifying the black robber, but both will be equally accurate in identifying the white robber.	10.3	2.6	6.7	4.4
5. Don't know.	2.9	0.0	3.3	8.8
6. Other.	1.5	0.0	0.0	0.0
* Correct answer.				
** $\chi^2(3, N=204) = 11.14, p < 0.01$.				

Table 12 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and identification by police vs. retail persons'

"Two eyewitnesses give conflicting evidence about the identification of a suspect, seen earlier for a few seconds. One of the eyewitnesses is an experienced police officer and the other is a long time store clerk. Which statement best reflects your view about the the witnesses' testimonies?"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1 The police officer's evidence is more likely, to be accurate	51.5	39.5	40.0	64.7	52.0
2 The clerk's evidence is more likely to be accurate	4.4	5.3	0.0	0.0	2.5
3 It is likely that both the police officer and the clerk will be equally accurate **	11.8	23.7	36.7	14.7	18.6
4 Since the evidence conflicts, neither person is likely to be accurate	17.6	13.2	20.0	10.3	14.7
5 Don't know	10.3	7.9	3.3	8.8	8.3
6 Other	4.4	10.5	0.0	1.5	3.9

* Correct answer

** $\chi^2(3, N=204) = 9.88, p < 0.02$

Table 13 Percentage of subject groups that gave each of the response to so a question about eyewitness testimony and memory for faces

"Which of the following statements do you feel best represents the truth about an eyewitness' memory for faces seen only once?"

Answers	Subject groups			
	Student Jurors' (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)
1. Even after several months, memory is still 90-95% accurate.	7.4	2.6	0.0	17.6
2. Physically attractive and unattractive faces are remembered no better over the long term than are faces of average attractiveness.	10.3	10.5	0.0	10.3
3. After a period of about 2 weeks, a face seen only once before becomes indistinguishable from faces never seen before.	47.1	36.8	50.0	20.6
*4. It takes about 6-12 months before a face seen only once before becomes indistinguishable from faces never seen before.	10.3	10.5	23.3	17.6
5. Don't know.	22.1	21.1	23.8	17.6
6. Other.	2.9	18.4	3.3	16.2
				14.7
				20.6
				10.3
				8.8

* Correct answer.

Table 14 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and identification in a lineup

A corner store robbery is committed. Later, the clerk who was robbed at gunpoint identifies someone from a set of photographs as the person who committed the crime. Still later, the clerk is asked whether the robber is present in a lineup of several somewhat similar individuals. Which of the following statements is most likely to be true?

Answers	Subject Groups			
	Student Jurors (N=68)	Lawyers (N=38)	Psycho- logists (N=30)	Police Officers (N=68)
1 Guilty or not, if the person identified in the photos is present, he/she is likely to be identified from the lineup as well.	55.9	89.5	76.7	44.1
2 Having seen the photos, the witness (victim) is not likely to choose someone from the lineup if the robber is not present.	19.1	2.6	6.7	14.7
3 If the robber is present in the lineup, having seen his/her photo previously would not alter the chances of the victim identifying him/her from the lineup.	13.2	5.3	3.3	26.5
4 The effect of viewing the photos on accuracy of identification later at the lineup is not affected by how good a look the witness got of the robber.	5.9	0.0	0.0	5.9
5 Don't know	4.4	2.6	10.0	4.4
6 Other	1.5	0.0	3.3	4.4

* Correct answer

** $\chi^2(3, N=204) = 24.99, p < 0.01$

Table 15 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and subjective confidence

"There are two eyewitnesses to a violent crime which was committed under poor lighting conditions. When giving evidence, some time later, one witness is very confident in a line-up. The other witness is not very confident about his/her ability to identify the criminal. Which of the following statements best reflects your belief in their testimony?"

Answers	Subject groups				
	Student Jurors' (N=68)	Lawyers (N=38)	Psycho- logists (N=30)	Police Officers (N=68)	RqW Percentage
1. The confident person is more likely to be accurate than the less confident person.	20.6	10.5	10.0	47.1	26.0
2. The less confident person is more likely to be accurate than the more confident person.	8.8	18.4	10.0	2.9	8.8
*3. Both persons are likely to be equally as accurate as inaccurate as each other.	51.5	55.3	63.3	38.2	49.5
4. If the less confident person's testimony does not agree essentially with the more confident person's, then the less positive person's testimony will be accurate.	2.9	2.6	6.7	0.0	2.5
5. Don't know.	16.2	13.2	10.0	10.3	12.7
6. Other.	0.0	0.0	0.0	1.5	0.5

* Correct answer.

Table 16 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and photo identification

"Suppose a customer witnessed a bank robbery during regular working hours. If the person were to shortly thereafter go through a collection of photographs of criminals, which of the following responses do you feel would most accurately reflect the outcome?"

Answers	Subject groups				ROW Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1 The chances of recognizing the robber, even if he/she were in the list of photos, would be unlikely.	13.2	2.6	6.7	2.9	6.9
2 The chances of recognizing the robber if the pictures were in color would be greater than if the pictures were in black and white.**	45.6	73.7	53.3	64.7	58.3
3 The chances of recognizing the robber if the mugshots were in black and white would be greater than if the pictures were in color.	10.3	5.3	10.0	2.0	6.9
4 The chances of recognizing the robber would be the same regardless of the type of picture.	22.1	13.2	20.0	25.0	21.1
5 Don't know	8.8	5.3	10.0	2.9	6.4
6 Other	0.0	0.0	0.0	1.5	0.5

* Correct answer

** $\chi^2(3, N=204) = 9.67, p < 0.02$

Table 17 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and identification by photo layout

"Suppose that in the same bank robbery above there had been two persons who had witnessed the robbery and were then each presented with a different set of photos. One set of photos had full-face and profile views of the suspect while the other set of photos had full-face (frontal view) and three-quarter (full-face and side view) profiles. Which of the following choices do you feel would most likely be true?"

Answers	Subject groups			
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)
1. The person viewing the full-face and profile set of photos would have a better chance at recognizing the robber than the person viewing the full-face and three-quarter view pictures.	14.7	5.3	6.7	13.2
2. The person viewing the full-face and three-quarter set of photos would have a better chance at recognizing the robber than the person viewing the full-face and profile pictures.	23.5	31.6	43.3	27.9
3. Regardless of which set of photos, both individuals would have an equal chance at recognizing the robbers face.	48.5	39.5	26.7	48.5
4. Don't know.	11.8	18.4	20.0	8.8
5. Other.	1.5	5.3	3.3	1.5

** Correct answer

Table 18 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and recall ability by age

"If an elderly eyewitness is providing testimony about a crime they witnessed, which statement best reflects your view of his/her ability to describe the events?"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psycho- logists (N=30)	Police Officers (N=68)	
1. It is unlikely that the elderly person will be as accurate in describing the events as a younger person would be.	11.8	7.9	13.3	10.3	10.8
2. The elderly person is likely to be just as accurate in describing the events as a younger person in describing details of the event.	29.4	39.5	43.3	50.0	40.2
3. Immediately after the crime the elderly person will be just as accurate as a younger person in describing the details of the event.	41.2	26.3	26.7	19.1	28.9
4. Provided that some time has elapsed after the crime, the elderly person will be able to describe the details of the events that took place as accurately as a younger person.	2.9	5.3	0.0	10.3	5.4
5. Don't know	8.8	10.5	13.3	5.9	8.8
6. Other	5.9	10.5	3.3	4.4	5.9

• Correct answer

Table 19 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and recognition memory by age

"Suppose that two women, of normal health, witness a crime. One is elderly (about 70 years) and the other is a young (about 20 years) woman. Which statement best represents the witnesses' ability to recognize the criminal?"

Answers	Subject groups				Row Percentage
	Student Jurors' (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. The younger woman will be better able to recognize the criminal than the elderly woman.	26.5	28.9	16.7	20.6	23.5
*2. Both women are likely to be equally good at recognizing the criminal.**	52.9	52.6	66.7	73.5	61.8
3. The elderly woman is likely to be better at recognizing the criminal than the younger woman.	5.9	0.0	3.3	4.4	3.9
4. Women are generally poor at face recognition and so neither is likely to recognize the criminal.	2.9	2.6	3.3	0.0	2.0
5. Don't know.	8.8	13.2	10.0	1.5	7.4
6. Other.	2.9	2.6	0.0	0.0	1.5

* Correct answer.

** $\chi^2(3, N=204) = 7.87, p < 0.04$.

Table 20 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and person identification by the elderly

"An elderly eyewitness to a crime is unable to describe the criminal to the police when they arrive on the scene shortly after the event. However, when looking through the police files later that day he/she recognizes and identifies a photograph as being the criminal's. Which statement best reflects your view of his/her identification?"

Answers	Subject groups				Row Percentage
	Student jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. He/she is unlikely to be accurate as the elderly person will likely be confused.	0.0	0.0	3.3	1.5	1.0
2. He/she is unlikely to be accurate as they could not describe the person shortly after the event.	11.8	13.2	10.0	8.8	10.8
3. He/she is equally likely to be accurate as inaccurate.	20.6	26.3	10.0	14.7	18.1
*4. He/she is reasonably likely to be accurate because recognizing someone is different from being able to describe them.	58.8	55.3	73.3	72.1	64.7
5. Don't know.	8.8	5.3	3.3	2.9	5.4
6. Other.	0.0	0.0	0.0	0.0	0.0

* Correct answer.

Table 21 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and responses by children

"If a young child (about 8 years) is questioned by the police or in court, which statement best reflects your view of the type of replies the child might give?"

Answers	Subject groups			
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)
1. The child is likely to reply accurately.	27.9	18.4	26.7	39.7
2. The child is likely to reply the way he/she thinks the questioner wants them too.	52.9	52.6	53.3	38.2
3. The child is unlikely to reply to the questions.	2.9	2.6	0.0	0.0
4. The child is likely to reply "I don't know" to the questions.	5.9	2.6	3.3	7.4
5. Don't know.	5.9	10.5	6.7	7.4
6. Other.	4.4	13.2	10.0	7.4

* Correct answer

Table 22 Percentage of subject groups that gave each of the responses to a question about voice identification

"A male witness overhears a robbery being committed by a male robber in the next room. Although he could not see the robber, it is likely that the robber can be positively identified by voice if:"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. The voice identification test is given within minutes of first hearing the robber's voice rather than 24 hours later.	19.1	28.9	23.3	17.6	21.1
2. The robber speaks in a normal tone of voice during the identification test regardless of the tone of voice used during the robbery.	2.9	0.0	0.0	2.9	2.0
3. The robber speaks in the same tone of voice during the identification, as he spoke during the robbery.	42.6	28.9	40.0	36.8	37.7
4. The voice identification test was given within a month of the robbery taking place.	0.0	2.6	0.0	1.5	1.0
5. Don't know.	30.9	31.6	20.0	27.9	28.4
6. Other.	4.4	7.9	16.7	13.2	9.8

Correct answer.

Table 23 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and recognition training: feature vs. holism

"Suppose that, in an effort to help bank tellers to be better eyewitnesses a group of tellers were trained to notice specific facial characteristics such as the nose, mouth, ears, hair style, and any distinguishing features while another group of tellers were trained to focus on the perceived personality characteristics (e.g., sly, handsome, intelligent, etc.) of the face to assist in recognition. If both groups were presented a short bank robbery video and then asked to recognize the face of the robber from a photo-spread which statement do you feel would be true?"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psycho- logists (N=30)	Police Officers (N=68)	
1. Both groups would be equally able to recognize the robber's face.	5.9	7.9	10.0	16.2	10.3
*2. The tellers trained to recognize specific facial features would do better at recognizing the robber than the group trained to focus on personality characteristics.	80.9	63.2	63.3	73.5	72.5
3. Those tellers trained to focus on personality characteristics would fair better than the group trained to focus on specific features.	7.4	7.9	10.0	0.0	5.4
4. Training would not make any difference if compared with non-trained tellers.	2.9	15.8	0.0	1.5	4.4
5. Don't know.	2.9	5.3	16.7	5.9	6.4
6. Other.	0.0	0.0	0.0	2.9	1.0

* Correct answer

Table 24 Percentage of subject groups that gave each of the responses to a question about eyewitness testimony and recall: free narration vs. specific feature narration

"Two people with similar backgrounds are separately trained to improve their ability in facial recognition. One is trained to remember specific facial features (e.g., nose, mouth, eyes, scars, etc.) of the face while the other person is trained to verbalize what they saw. Which statement do you feel is most likely to be true?"

Answers	Subject groups				Row Percentage
	Student Jurors (N=68)	Lawyers (N=38)	Psychologists (N=30)	Police Officers (N=68)	
1. Both individuals would perform equally well in a recall task since both were trained. The type of training does not really matter.	13.2	2.6	6.7	25.0	14.2
*2. The person trained to verbalize what they saw would be able to provide better information for identification than the visually trained person.	27.9	31.6	40.0	23.5	28.9
3. The visually trained person would provide better information for identification than the verbally trained person.	33.8	21.1	20.0	26.5	27.0
4. There is no relationship in recall between verbal training and visual training.	13.2	7.9	0.0	10.3	9.3
5. Don't know.	10.3	31.6	20.0	13.2	16.7
6. Other.	1.5	5.3	13.3	1.5	3.9

* Correct answer.

Table 25 Mean 'correct' score and mean confidence rating in their answer by subject groups

Table No. Factors	Subject groups				ROW mean 'correct' / & mean level of confidence
	Student 'Jurors' (N=68)	Lawyers (N=38)	Psycho- logists (N=30)	Police officers (N=68)	
3 Stress	.809/1.38	.474/1.54	.800/1.56	.691/1.16--	.706/1.36--
4 Violence	.147/1.78	.237/1.70	.367/1.88	.250/1.36	.230/1.63
5 Weapon focus	.588/1.51	.368/1.51	.467/1.87	.456/1.37	.485/1.52
6 Duration of event	.794/1.51	.868/1.39	.767/1.86	.588/1.21	.735/1.44
7 Question wording	.868/1.22--	.895/1.16--	.900/1.13--	.721/1.23--	.828/1.20--
8 Mistaken information (1)					
9 Questioning format	.426/1.63	.237/1.44	.433/1.72	.103/1.14--	.284/1.45--
10 Cross-race identification	.559/1.62--	.711/1.47	.767/1.61	.485/1.42	.593/1.52
11 Police	.074/1.48	.237/1.26	.267/1.90	.088/1.11	.137/1.38
12 Police vs. retail person	.118/1.72	.237/1.54	.367/2.04	.147/1.49--	.186/1.65--
13 Memory for faces	.103/1.72	.105/1.54	.233/2.04	.176/1.49	.147/1.65
14 Identification in a line-up	.559/1.56	.895/1.21	.767/1.96	.441/1.28	.613/1.45
15 Subjective confidence	.515/1.77	.553/1.48	.633/2.00	.382/1.36	.495/1.61
16 Photo identification	.456/1.80	.737/1.54	.533/1.96	.647/1.39	.583/1.64
17 Identification by photo layout	.235/1.89	.316/1.45	.433/2.15	.279/1.36	.294/1.67
18 Testimony and age	.118/1.56	.079/1.36	.133/1.78	.103/1.31	.108/1.48
19 Recognition memory by age	.529/1.56	.526/1.42--	.667/1.89	.735/1.32	.618/1.50
20 Identification by the elderly	.588/1.73--	.553/1.43	.733/1.63	.721/1.30	.647/1.52--
21 Responses by children	.529/1.50	.526/1.34	.533/1.51	.383/1.22	.480/1.38
22 Voice identification	.426/1.62	.289/1.51	.400/2.08	.368/1.58	.377/1.65
23 Feature vs. holism training	.809/1.57--	.632/1.59--	.633/1.55--	.735/1.25	.725/1.47--
24 Free narration vs. 'specific feature narration	.279/1.80	.316/1.44	.400/1.71--	.235/1.47	.289/1.62
AVERAGE Column Percentage	.471/1.79	.478/1.44	.547/1.80	.417/1.32	.466/1.51

(1) No 'correct' answer.

* Pearson correlations; significance level $P < 0.05$.

Table 26 Role of Expert Witnesses, Judges, and Jurors

Question No.	Subject groups	Response		
		Yes	No	
23. "Do you feel that psychologists experienced in eyewitness research should be regularly allowed to testify in a court of law?"(1)	-Student jurors	64.7%	35.3%	
	-Lawyers	70.3	29.7	
	-Psychologists	83.3	16.7	
	-Police officers	29.4	70.6	
	AVERAGE	57.0	43.0	
24. "When an eyewitness is the only source of evidence available to the court, generally how much faith do you feel the jury should place on such testimony?"(2)	No			
	Response			
	Faith Trusting			
	Skeptical			
	'Other'*			
-Student jurors	13.2%	14.7%	58.8%	13.3%
-Lawyers	0.0	9.8	68.3	22.0
-Psychologists	6.3	6.3	81.3	6.3
-Police officers	0.0	58.8	22.1	19.1
AVERAGE	5.0	27.0	52.0	15.0
25. "Do you feel that a judge should be responsible for cautioning the jury about any possible limitation of an eyewitness' testimony?"(3)	Response			
	Yes			
	No			
	-Student jurors	83.6%	16.4%	
	-Lawyers	97.3	2.7	
-Psychologists	90.0	10.0		
-Police officers	66.2	33.8		
AVERAGE	81.0	19.0		

(1) $\chi^2(3, N=204) = 33.12, p < 0.01$. * Refers to the options "Don't know" and "Other".
 (2) $\chi^2(12, N=204) = 81.74, p < 0.01$. (3) $\chi^2(3, N=204) = 16.09, p < 0.01$.

EXPERIMENT 2: METHODOLOGY

Subjects

There were two subject conditions. In the first condition, individuals were asked to respond to questions about a murder trial. The second condition involved assignment of subjects to groups and then having them respond to questions about the same murder. The first condition is referred to as the Individual Respondent condition and the second one as the Jury Team condition.

The original design called for subjects to respond to a case summary of a murder trial which was altered to allow two different fact situations and five instruction conditions within each fact situation.¹ Analysis of variance on both the individual and group data, however, revealed that there were no significant differences in the responses to the two fact situations. Consequently, data from the two fact situations were pooled for all subsequent analyses. Therefore, the final design was a 2 (subject conditions) X 5 (instructional conditions) factorial design as shown in Table 27, with 2 subject conditions - individual vs. group (Jury Teams) respondents, and five

¹The original design was a 2 (subject conditions) X 2 (factual conditions) X 5 (instructional conditions) factorial design. Because of the statistical analyses necessary for Experiment 2 the BMDP computer package was used as it is more capable of handling repeated measures data.

instructional conditions. These five conditions were as follows:

no instruction, experts' testimony, judge's informal forewarning, judge's minimal postwarning, and judge's informal postwarning.

The Individual Respondent data is based on the responses of 200 male and female criminology undergraduate students. Forty students were randomly assigned to each of the five instruction conditions. The Jury Team data is based on the responses of 260 additional criminology undergraduate students who were randomly assigned to teams of five to seven.² Each Team elected a leader to record the groups' decisions and responses to all the questions so that only one response form was submitted by each Jury Team. In this way the decision-making process is similar to that of a real jury in which decisions represent the collective response on the jury members. There were eight groups which responded to each of the five conditions, for a total of forty groups. The participants for the two subject conditions (Jury Teams & Individual Respondents) were selected on a voluntary basis and were asked not to participate in any other condition should their class be approached for participation. In order to complete the second condition, it was necessary to recruit additional criminology students from two local colleges.

²For the Jury Teams, no effort was made to control for group composition by gender.

Test Materials and Hypotheses

The stimulus mode was a written summary of the murder trial based on an actual trial case.³ It was felt that by using a case summary, it would be possible to increase the impact of the experimental manipulation; "the less complex and lengthy the case materials are, the more sharply the individual variables will stand out" (Bray & Kerr, 1982:299). Furthermore, it was hoped that the general authenticity of the case would lend more credibility as well as reflect an air of realism to the experiment.⁴ In order to meet the objectives of the experiment five versions of the cautionary message were devised. The cautionary messages included: no instruction, expert's testimony, judge's informal forewarning, judge's minimal postwarning, and judge's informal postwarning.⁵ In all versions,

³The case summary is based on a study conducted at the Centre for Criminology at the University of Toronto several years ago. The author of the work is unknown as only an excerpt of the study was available.

⁴Bray and Kerr (1982:289) identify four different methods which have been used for presenting the "simulation". They include: (1) written case summaries, (2) audio taped presentation in which the actors play the role of trial participants, (3) videotaped re-enactment of a trial, and (4) a live presentation by a troupe of actors. Each technique has its strengths and weaknesses (see Miller & Burgoon, 1982), but other than considerations of cost and efficiency, the method chosen is usually dictated by the type of questions being asked.

⁵It is realized that lawyers can also present cautionary messages about an eyewitness' testimony, but their statements are usually concerned with discrediting an eyewitness while judges and experts tend to direct their remarks at the credibility of eyewitnesses in general (Conroy, 1985). And while it would be useful to look at the effect a lawyer's commentary might have on the decision-making process of jurors, this study is primarily concerned with: (1) the notion of intuitive

except for the "no instruction" version, the purpose of the cautionary message was to instruct jurors about certain weaknesses which might exist in relation to the eyewitness testimony presented. The "no instruction" group thus served as the control group since the remaining scenarios all involved some form of cautionary statement. The reasons for using these conditions will be discussed a later in this section.

The five different "cautionary" conditions can now be defined more specifically.

1. For the condition including the testimony from an expert, "experts' testimony", the psychologist comments on people's perceptual and recall abilities by referring to the literature. He discusses a number of key factors which have been found to affect the accuracy of an eyewitness' recall process such as the sight of a weapon, duration of the event, age of witness, wording of questions, etc. In his concluding statement the expert noted that people should "not necessarily rely on their intuitive judgment alone because recent research evidence has challenged the reliability of such processes" (see Appendix B for a complete version of each of the instructional conditions).
2. In the "informal postwarning" condition (see Table 27), the judge is more detailed in his instruction to the jury than

5 (cont'd) knowledge about eyewitness issues among jurors, and (2) with the temporal impact and nature of judicial instructions. While the present study is not specifically concerned with the effect that discrediting witnesses might have on a jury's decision-making it would make for an interesting area of study given the debate that surrounds the topic.

in the "minimal" instructional conditions. Here the judge discusses problems of perception and memory, how the mind can play tricks on you when trying to remember things or events, the effect of time on memory, as well as the general effect of situational and environmental factors in which the event was witnessed.

3. For the "minimal postwarning" condition, the judge provides a more general caution than in the "informal" condition to the jury about the possible limitations of the eyewitness's testimony and that they should "consider carefully whether well-meaning and honest witnesses might be mistaken about the evidence they give".
4. In the "informal forewarning instruction" condition (see Table 27), in his opening remarks to the jury, the judge directs them to consider the general limitations of memory; the interest, bias or prejudice the witness may have toward the accused, as well as to be sensitive to any "other factors that bear on believability" of a witness' testimony.
5. Finally, as mentioned, the "no instruction" groups did not receive any cautionary messages.

Other than the differences in instruction to the jury, and the manipulation of the six case facts, all instructional conditions were similar in nature. Therefore, all the respondents read the same written case summary with only two variables being manipulated: the instructional conditions and characteristics of the case facts (see Table 27).

Based on a review of the literature, one important issue involves whether a judge's decision to present his/her cautionary remarks are given before the arguments of the prosecutor and the defence or after their arguments but before the jury adjourns to make their decision (see Saks, 1982). Judges are not called upon to discredit any particular testimony, but to provide instructional information about possible limitations of any eyewitness' testimony. Such cautions could, however, have a bearing on a juror's decision-making process. Based on previous findings and observations about juries placing a heavy emphasis on eyewitness evidence (Brandon & Davies, 1973; Cavoukian, 1980; Devlin, 1976; Loftus, 1980) despite such evidence being frequently unreliable, it is hypothesized that:

1. The judge's caution about the problematic nature of eyewitness testimony will prepare jurors for a more critical evaluation of it. Based on this proposition, it is predicted that the three judges' instructional conditions would be more effective in reducing the testimony's impact on the guilty verdicts than on the control condition; no instruction.

In a further attempt to simulate some of the procedural events that might occur during a trial involving testimony from one or more eyewitnesses, the scenarios included a temporal component as can be seen from the above conditions definitions. That is, for one condition, juror instructions were provided by the judge before (the "forewarning" condition) the presentation of arguments by the prosecutor and the defence and for two other judge's conditions, after the presentation (judge's "minimal

postwarning" and judge's "informal postwarning"), but before jury deliberation. Based on the findings of earlier investigators which reported that the "timing of judicial instruction mediates its efficacy" (Kassin & Wrightsman, 1979:1877) (also, see Cavoukian, 1980; Devlin, 1976; Loftus, 1975, 1979; Saks, 1982), it was hypothesized that:

2. If the timing of the judge's instruction is important for juror's assessment of an eyewitness' testimony then the "forewarning" condition would be more effective in reducing the number of guilty verdicts than would the judge's "minimal" and "informal" postwarning messages.

The "expert testimony" condition did not include any judge's instruction to the jury, but the expert, who acts in a role similar to that of a judge, provided instructional information about possible limitations with eyewitness testimony. This condition was included in order to examine the effects an expert's testimony might have on jurors decision-making.

Several simulation studies have been conducted on the impact of expert psychological testimony on the jurors' assessment of eyewitness testimony (Elwork, Sales, & Alfini, 1977; Hosch et al., 1980; Kassin & Wrightsman, 1979; Loftus, 1980; Wells, Lindsay, & Tousignant, 1980). The studies generally show that after exposure to an expert, jurors tended to scrutinize the testimony more carefully and appeared to place less importance on the testimony as there were fewer convictions. Based on these observations, it was hypothesized that:

3. If the experts message does cause jurors' to scrutinize eyewitness testimony, more carefully

then fewer guilty verdicts will be reached compared to the control mode of instruction.

No propositions are formulated for comparisons with the postwarning and forewarning instructional conditions since in real criminal trials an expert never presents his/her message without further comment from the judge and or defence and prosecution.

As was initially stated, in the original design, before data collection began, it was intended to include a third independent variable which involved the manipulation of the facts on the case. Since some of the literature suggests that certain "estimator" variables are related to both the accuracy of an eyewitness' testimony and the perception of that testimony by the jurors, two different factual versions of the five trial elements were devised (see Appendix B). However, as noted previously, no significant differences in responses to the two fact situations were found; consequently this variable was dropped from all other analyses and the data from the two fact situations were pooled.

However, the testing procedure was manipulated so that it was possible to examine the effect of individual versus group decisions (see Table 27). In effect, an attempt was made to simulate a real jury setting and then study the cognitive decision behavior of the two units of analysis. As Wells (1984:266) notes, the use of written trials is a method "that can preserve most of the crucial elements of an actual

trial...In addition, this method requires the trier of fact to distinguish the relevant information from the irrelevant information."

Even though trial by jury is relatively rare, in Canada, (see Cole, 1975, & footnote 13, p. 68), considerable discussion and research has accumulated, in recent years, debating the effect of jury size, whether maintaining the jury system is necessary, and what social and cognitive processes underly jury deliberation and decision-making (e.g., Champagne & Nagel, 1982; Hasties et al., 1983; Kalven & Zeisel, 1969; Kaplan, 1982; Saks, 1977). While the general consensus indicates that juries should remain an integral component of our court system, one of the areas of investigation which challenges this historically rooted practice involves the study of the social and cognitive processes of jurors'. In their attempt to explain the deliberation process, Kalven and Zeisel (1969:489) used an analogy to represent their speculation: "The deliberation process might well be linked to what the developer does for an exposed film: brings out the picture, but the outcome is predetermined." Dane (1985), among others, however, has suggested that juror deliberation is seldom, if ever, a straightforward process because of the complex dynamics of group processes and that such legal issues as the criterion known as "reasonable doubt" can further complicate the decision process (see Champagne & Nagel, 1982; Elwork, Sales, & Alfini, 1977; Hastie et al., 1983). Kaplan (1982) notes, for example, that

predicting how much doubt is needed to reach the threshold of reasonable doubt among jurors represents a gap in our the knowledge about the subject. While the case summary represents an attempt to encapsulate some of this potential complexity of a trial, the units of analysis (Jury Teams and Individual Respondents) will be used to explore some of the dynamics surrounding the social and cognitive processes of deliberation. Based on the supposition that small group deliberation is more useful and consistent (see Hastie et al., 1983) than no deliberation, it is hypothesized that:

4. If group decision-making is more reliable and consistent than individual decision making then the Jury Teams will not only be: (a) more confident in their decisions than will the Individual Respondents, but (b) they will also produce fewer guilty verdicts than the Individual Respondents.

Furthermore, rather than simply focus on the impact that the various instructional conditions have on case verdicts (hypotheses 1-3) or the differences between Jury Teams and Individual Respondents deliberation processes (hypothesis 4(a) & (b)), the present study also examined respondents' perceptions of the witnesses' and accused's testimony as well as the effect of estimator variables (e.g., gender, race, age, etc. - variables similar to those studied in Exp. 1) on their decision-making process. This was accomplished through the inclusion of two additional questions at the end of the questionnaire. It was intended that an examination of these response patterns would provide further clarification about

whether jurors are "passive" or "active" actors (see, Buckhout, 1976).

Thirty-seven students from an upper level criminology class, most of whom had taken one or more criminal-law related courses, were asked to read the completed written trial summaries. Before beginning, the students were informed as to the purpose of the study. With this in mind they were then asked to read the trial scenarios for coherency, comprehensibility, and to judge whether the case variables for Facts A and Facts B were sufficiently different from one another. Based on their feedback, a few minor wording changes were made and one question was dropped because of redundancy. A copy of the two trial scenarios (Facts A and Facts B), their five judicial instructional conditions, and accompanying questionnaire are located in Appendix B.

Design and Procedure

As noted in the previous section, only five jury instruction conditions will be tested because of sample sizes necessary to complete the conditions identified in Table 27. A breakdown of the procedure used to test the effect of cautionary remarks on the Individual Respondents and Jury Teams is provided in Table 27 as well.

After obtaining permission from various faculty members, criminology undergraduate classes or tutorials were randomly

Table 27
Design for Written Trials

Variables	Temporal order of instruction	Nature of instruction
Facts A/ Facts B		- no instruction - expert's testimony
	before*	JUDGE'S: - informal forewarning
	after	- minimal postwarning
	after	- informal postwarning

Note: Statistical analysis showed no significant differences between Facts A conditions and Facts B conditions. Therefore, the data for the two groups were combined into one sample for statistical analysis of all the remaining hypotheses.

When the results from Facts A and Facts B were combined, each instructional condition had been assessed by eight Jury Teams and forty Individual Respondents.

* "before" refers to judge's instructions to the jury before the presentation of arguments by the prosecutor and defence and "after" refers to the judge's instructions after the prosecutor's and defence attorneys arguments, but before the jury adjourns to deliberate their decision.

selected to participate in the study. After the classes were identified, the students were approached, during regular class hours, and asked to voluntarily participate in the study if they were eligible to serve as jurors. In order to determine their eligibility to serve as jurors they were read the disqualification criteria (see Appendix F). For example, they had to be a Canadian citizen; they could not be under 19 years of age; or have been "convicted within the previous 5 years of an offence for which the punishment could be a fine of more than

\$2,000 or imprisonment for one year or more".⁶ The students were informed that they would be participating in a study which was concerned with examining the effects of different instructional conditions and different factual conditions on their decision-making behavior and their assessment of the case facts. After the Individual Respondents or Jury Teams finished reading their instructional condition, they were asked to complete a short questionnaire which asked them to determine: whether or not the individual was guilty or whether there was insufficient evidence to make a decision; how confident they felt about their decision on a 1 - 5 point scale; and which of the six major factors identified,⁷ if any, were most important in their decision; as well as to describe how they reached their conclusion (see Appendix B for a sample of the scenarios and the questioning format). After the students had finished they were asked not to discuss their cases with anyone else, especially other criminology students, until the end of the week after which time all the data would be collected.

No time limit was set for the Individual Respondents or the Jury Teams to complete the assignment.⁸ They were also told that

⁶Of all the classes surveyed only three students had to disqualify themselves because two were police officers and one was inappropriately completed.

⁷The six factors included: time delay between the shooting and arrest, money found in the accused's room, ammonia trace on accused's shoes, paraffin test results for gun powder residue, eyewitness' testimony, and defendants alibi.

⁸It was observed that the Jury Teams took approximately 20 minutes to complete the assignment while it took the Individual

not every other Individual Respondent or Jury Team had the same instructional condition.

For each class the trial conditions were distributed so that no class completed all of the same instructional scenario. This procedure was repeated over a two week period until too many students (10-15 students per class) said they had already been asked to participate in the study. All but twenty-three Individual Respondents and nine Jury Team conditions were left unfilled. A local college which had a university transfer program for criminology students was used to complete the remaining conditions. The same procedure as with the university population was used to collect the remaining data.

Considerations about the Unit of Analysis

Even though jurors are normally selected from a list of all registered voters, it was proposed that for this part of the study, the sample would be comprised of undergraduates who satisfied juror eligibility requirements. Since the primary objective of Experiment 2 was to examine the extent to which various procedural issues can impact decision-making patterns and behaviors of jurors who are using an eyewitness' testimony to reach their decision, it can be argued that a traditional undergraduate⁹ population could be used because the issue of

⁸(cont'd) Respondents between 5 and 10 minutes to complete their instructional conditions.

⁹Based on a computer search of all articles and books published on eyewitness research/testimony between 1980 and 1984, well over half of those involving experimental designs used

internal validity is more important than external validity.

Obviously there are differences between this student sample and any sample of jurors which automatically raise concerns about generalizability or external validity from an experimental jury simulation setting to an actual trial situation (see Bray & Kerr, 1982; Cook & Campbell, 1979).¹⁰ It has, however, been argued (see Yarmey & Jones, 1983) that since jurors are registered voters as were the students in this study, that generalizability is enhanced within similar settings. But, before external validity can be established the phenomena in question must be examined under different conditions (e.g., *in situ* studies). This will be discussed in greater detail in the final chapter.

The decision to rely on an undergraduate population was based primarily on economic and practical considerations. Most importantly, students were readily accessible. In addition,

⁹(cont'd) undergraduates in their sample population. While this may not represent a proper justification for using a student sample, the author defers to precedents to support the sample choice. It would have been preferred to use participants from the general population, but, again, due to resource limitations, the study had to use a student population. Bray and Kerr (1982) offer a number of other rationales for the use of student populations for simulation type studies. One of the main rationales they offer notes that students are more familiar with completing questionnaires and in responding to hypothetical situations. Therefore, they require less training and respond to the tasks more naturally than untrained persons.

¹⁰Because most of the students who participated in this part of the study had taken one or more criminology courses, it is possible that they were somewhat more informed about court proceedings and eyewitness issues than the general populace. A survey of the undergraduate courses revealed, however, that there are no specific course which deal extensively with court procedures or eyewitness testimony.

given the size of the sample ($N=460$) necessary to complete the design conditions, it was felt that students could more easily be solicited without a prohibitive cost. It can be argued further that a student sample facilitates the internal validity of this study because students are generally familiar with completing surveys and questionnaires. Although external validity is important, the initial concern necessarily is internal validity. It is critical first to assess whether variations among student 'jurors' decision-making are attributable to the independent variables involving eyewitness issues. It was considered particularly important to examine whether variations in judges' messages might affect a juror's perception, singularly or in a group context, of the eyewitness' testimony.

CHAPTER X

RESULTS AND DISCUSSION: EXPERIMENT 2

A system historically and ideally dedicated to protecting the innocent from wrongful convictions should experiment and reform in every manner to minimize the risks.

Brian Addison, 1980.

For Experiment 1, four different groups (student 'jurors', lawyers, psychologists, and police officers) were tested as to their intuitive knowledge about the relationship between various estimator and system variables and the reliability and accuracy of an eyewitness' testimony. Of particular interest was whether the student 'jurors' intuitively knew how various eyewitness variables relate to the reliability and accuracy of such testimony. Another objective of the experiment was to examine the extent to which, if any, the other groups differed in their responses.

Information about whether intuitive beliefs concerning eyewitness variables is as consistent as the findings reported in the psychological literature could have policy and procedural implications for the handling of such testimony in a criminal trial. While the psychologists' responses were significantly different from the student 'jurors' and the police officers, none of the group's overall mean *correct* scores was greater than chance. It was observed that for the various system (e.g., structure of a line-up, order of cautionary message by the court to the jury) and estimator variables (e.g., age, stress, gender, race, etc.), none of the groups were very knowledgeable about how

the variables affect the reliability and accuracy of such testimony. This was reflected in the observation that the average *correct* response rate was only 46.6% ($M=9.78$).

Sales et al. (1977), Wells (1978), and Wells and Wright (1986) have suggested that if any practical modifications are going to be made regarding the management of eyewitness evidence, future researchers should shift their emphasis to communicating how system changes can be brought about rather than simply providing descriptive information about eyewitness elements alone. Wells and Wright (1986) caution, however, that before a system approach can work, the legal system will require incentives for change. They suggest "(a)n integration of the expert testimony approach and the system approach can make expert testimony proscriptive and produce incentives for positive change in police procedures for collecting eyewitness evidence" (p. 46). Experiment 2 represents an attempt to bridge this gap and offer evidence which can help legalists act upon the information made available to them.

Although Experiment 2 does focus on several of the estimator variables studied in Experiment 1; one of the key areas explored involves the effects on the jurors' decision-making behavior created by different cautionary messages given by the judge or by a psychologist consider to be an expert on eyewitness identification and testimony.

Outcome Measures

Judicial Instruction vs. No Instruction

Hypothesis: 1. The judge's caution about the problematic nature of eyewitness testimony will prepare jurors for a more critical evaluation of it. Based on this proposition, it is predicted that the three judges' instructional conditions would be more effective in reducing the testimony's impact on guilty verdicts than on the control condition; no instruction.

Overall, for the combined judges' instructional conditions, 24.3% of all the Jury Teams and Individual Respondents selected the guilty verdict while 33.3% of those responding to the "no instruction" conditions chose the guilty verdict (see Table 29). For the not guilty option, 22.9% of the respondents to the instructional conditions reached this verdict while only 10.4% of respondents to the "no instruction" condition came to the same decision.¹ Chi-square analysis revealed that there were no differences between the type of instructional condition and verdict reached ($\chi^2(2, n=192) = 4.02, p = 0.13$). Therefore, the data do not support the proposition that judges' instructions would reduce the impact of the eyewitness' testimony any more than the "no instruction" condition. The findings are contrary to those reported by Cavoukian (1980).

¹Table 28 provides a breakdown by each individual instructional condition and by respondent type.

Forewarning vs. Postwarning

Hypothesis: 2. If the timing of the judge's instructions is important for juror's assessment of an eyewitness' testimony then the forewarning instructional condition would be more effective in reducing the number of guilty verdicts than would the judge's "minimal" and informal postwarning message.

Overall, for the combined scores of the Jury Teams and Individual Respondents, 25.0% of the "postwarning" respondents found the accused guilty while 22.9% of those completing the "forewarning" condition reached the same verdict (see Table 30). As for the not guilty verdict, 22.9% of the respondents for both instructional conditions reached this decision. None of the differences were statistically significant ($\chi^2(2, n=144) = 0.08, p = 0.96$).

Perhaps because of limited sample sizes or insufficient detail in the trial scenario, the present study was not able to support those findings of Kassin and Wrightsman (1979). Given that the overall trend of the average scores were in the predicted direction, further investigation is encouraged since several researchers have argued that the timing of the judge's instructions are critical to the jurors' decision-making (see Saks, 1986, for a general review of this literature).

Although not part of the hypothesis testing, it was interesting to observe that the type of verdicts reached between the two "postwarning" conditions were not similar (see Table 28). For example, when the Jury Teams verdicts and the Individual Respondents outcome scores were averaged, the

scenario involving "informal postwarning" had fewer guilty verdicts than did the "minimal postwarning" condition (17.5% difference). Given this type of variation, it might be that not only is the timing of instruction important but also the manner in which the instructions are presented. Some support for this assumption has come from Cavoukian (1980) and Elwork, Hansen, and Saks (1986). Future research should continue to explore this possibility and attempt to define the parameters under which such effects might occur.

Expert Testimony

Hypothesis: 3. If the expert's message does cause jurors' to more carefully scrutinize eyewitness testimony then fewer guilty verdicts will be reached compared to the control mode of instruction.

Contrary to speculation, Table 31 shows that the message from the expert did not result in significantly fewer guilty verdicts than the "no instruction" procedure ($\chi^2(2, n=96) = 1.04, p = 0.59$).

For the "expert's testimony" scenario, the Jury Teams score was tied for the second lowest number of guilty verdicts. There was no apparent trend for the Individual Respondents on the two conditions.

Again, the results do not support previous findings. The difference between the findings of Elwork et al. (1986) and Kassin and Wrightsman (1979) and those of the present study may, in part, be due to the nature of the "forewarning" and expert's

testimony or the factual conditions surrounding the case. Bray and Kerr (1982) argue that although there are numerous disadvantages to using "unrealistic" case simulations to study courtroom behavior, the results from such studies tend to be sensitive to the type of independent and dependent variables used. It may be that because the case facts appeared to be fairly straightforward to the respondents, the expert testimony was not considered important enough by either the Individual Respondents or the Jury Teams to impact their decision-making process. The responses to question four, where the respondents were asked to describe their decision-making process, would appear to lend some support to this observation. Nevertheless, given the growing evidence that expert testimony can affect jurors, further investigation in this area is encouraged to clarify this issue.

Another possible problem might have been that the jurors simply did not adequately comprehend the instructions. Despite the feedback to question number 4, it was not possible to discern whether the variation in case verdicts was in any way reflective of the jurors' understanding of the judicial instructions. Several studies have found, for example, that jurors do not always completely understand judicial instructions (Greene & Loftus, 1985; Hervey, 1947; Kerr et al., 1976; Lind, 1982; Sales et al., 1977; Severance et al., 1984). Kerr et al. (1976), for example, note that while jury instruction is probably important, they question the effect of any instruction

on the jury. Buckhout, Weg, Reilly, and Frohboese (1977) suggest that despite the concern about whether instructions to the jury have any effect, judges still offer instructions to counter the tendency for jurors to decide on a guilty verdict. Kerr et al. (1976) also found that by using several different definitions of "reasonable doubt", there were significant differences in case verdicts depending on which version was presented to the jury.² Future research employing simulation type studies should attempt to use a factorial design approach with a large sample to enhance the reliability and validity of such studies. A plea for more field and *in situ* type studies will be made in the General Discussion section.

Jury Team versus Individual Respondents

Outcome Measure

Hypothesis: 4(a) If group decision-making is more reliable and consistent than individual decision making then the Jury Team will produce fewer guilty verdicts than the Individual Respondents.

Table 28 reveals that 27.5% of the Jury Teams and 28.5% of the Individual Respondents chose the guilty verdict while 10% of the Jury Teams and 21% of the Individual Respondents chose the not guilty verdict, and 62.5% of the Jury Teams and 50.5% of the Individual Respondents felt there was insufficient evidence to

²Another related issue which has received attention concerns the extent to which jurors will obey understandable instructions. Doob and Kirshenbaum (1972) and Hans and Doob (1976), for example, found that instructions to disregard certain evidence are not always obeyed.

reach a verdict. Although the distribution of decision verdicts was in the predicted direction, the chi-square analysis showed that the difference was not statistically significant ($\chi^2(8, N=240) = 7.90, p = 0.44$).

While the results are not directly comparable to those of Buckhout (1977), Davies, Kerr, Atkin, Holt, and Meek (1975) or Valenti and Downing (1975),³ the breakdowns by decision type provide no real support for the proposition and earlier findings that small groups (in this case, Individual Respondents) are more likely to convict or reach a conclusive verdict than are Jury Teams. However, before any generalizations can be made, further replication with a larger sample and different group size conditions (e.g., 4 vs. 6 vs. 12 person juries) is recommended (cf., Hastie et al., 1983, also see Brown, 1986).

Confidence by Decision

Hypothesis: 4(b) If jury deliberation in groups is a more effective means for reaching a unanimous decision then the Jury Teams will be more confident in their decisions than will be the Individual Respondents.

Table 32 shows that overall the Jury Team respondents were significantly more confident than the Individual Respondents ($M=1.84$ & 2.32 respectively, $t(238)=2.93, p < 0.01, 2$ -tailed).

³The other studies used mock jury groups with six and twelve persons per group. Lempert (1986) offers an interesting discussion on why such generalizations are permissible. Drawing on a personal situation, Lempert notes how it is sometimes necessary and acceptable to use any information available to reach the most "informed" decision possible, even if it involves overgeneralizing slightly.

Confidence by Type of Instruction: For both the Jury Teams and the Individual Respondents, the lowest overall level of confidence was expressed for the "no instruction" condition ($M=2.37$ & 2.30 respectively) and the highest mean level of confidence for the judge's "minimal postwarning" scenario ($M=1.75$ & 2.20 ; see Table 32). Unlike the Individual Respondents, none of the Jury Teams expressed a lack of confidence (options 4 & 5) about their decision (see Table 32).

Although the results are not statistically significant, the results are in the predicted direction. They provide tentative support for the recommendations of Kaplan (1982), Kerr (1982) among others who conclude that more research needs to be conducted on small group decision-making behavior, especially as it relates to the judicial system and that such studies need to be conducted in a field setting in order to improve the external validity of any findings. These issues will be readdressed in the General Discussion section.

What is not clear from the results is the extent to which the instructions influenced the jurors or to what extent they understood the instructions and responded to them (see Lind, 1982; Sales et al., 1977). Question number 4 of the questionnaire (see Appendix B) does, however, provide some insight into this issue. It will be addressed shortly.

Of the five instructional procedures, the "informal forewarning" condition for the Jury Teams and the judge's

"minimal postwarning" scenario for the Individual Respondents had the highest average confidence rating ($M=1.50$ & 2.20 respectively). Somewhat surprisingly, Jury Teams responding to the "expert testimony" and "informal forewarning" scenario had the lowest confidence ratings ($M=1.75$). Using t-tests to compare the mean scores between the conditions, none of the means between the Jury Teams and Individual Respondents were statistically different from one another.

Despite the observations by Brannigan (1984) and Griffiths et al. (1980) that the use of juries is declining in Canada, the present results do not support Levine, Farrell, and Perrotta's (1981:300) findings that this decline may be attributed to their "declining usefulness". Rather, it appears, based on the observations, that any problems with the perceived usefulness of jurors is dependent on the manner in which juries are treated (see Kenneback, 1975); the manner and format in which they are instructed by the trial judge, the Crown or defence, and/or expert witness; and the passive role they must generally play.⁴

Since the participants in this study were fairly homogeneous and there were measurable differences between the level of confidence and mode of decision making (Jury Teams vs. Individual Respondents), the results lend general support to some of the findings reported by Kassin and Wrightsman (1979).

⁴In Canada, the extent to which jurors can take notes or ask questions varies between the provinces and still comes under the domain of the presiding judge.

That is, jury effectiveness appears to be related to the circumstances in which a judicial instruction is presented as well as to the circumstances surrounding the case. Although not discussed in the same framework, Sales et al. (1977) similarly suggest that the manner of judicial presentation is important. The Law Reform Commission (1980) offers a number of recommendations for improving the judge's charge to the jury. One of their major recommendations suggests that "the Canadian Judicial Council should prepare a collection of accurate and understandable jury instruction guidelines to be made available to all judges for use in criminal cases" (p. 75).

Key Factors when making the Case Decision

In Experiment 1, it was observed that some estimator variables (e.g., age, stress, weapon focus, etc.) are perceived as influencing the accuracy of an eyewitness testimony more so than others. Dillehay and Nietzel (1985) found that juror experience can affect the probability of a conviction while Sales et al. (1977) note that the manner and timing of how information is presented can affect jury decisions. Other researchers have attempted to apply mathematical models to decision-making within the judicial process in an effort to establish prediction formulas to explain decision-making behavior of jurors (see Champagne & Nagel, 1982, or Pennington & Hastie, 1981, for a general review of decision-making theories).

Question number 8 (see Appendix B) in each of the case scenarios asked the Jury Teams and Individual Respondents which of the six factors listed they considered important when making their decision about the defendant's guilt or innocence. The objective was not to test a decision-making theory or model, or to attempt to formulate a new one, but was instead, to examine how the various pieces of evidence in a case might be considered differently under different judicial instructional situations. Only one study to date has explored this issue. Most researchers seem to have assumed that decision-making is fairly uniform and generalizable from one type of case to another and not dependent on case factors (see Lindsay, Marando, Lim, & Cully, in press, for an exception to this trend). The results are summarized in Table 33. The initial analysis involved two categorical grouping factors (between subject conditions and between instructional types) and one within continuous factor (the six case factors). Based on the ANOVA, no significant main effects or interactions were observed. Nevertheless, a descriptive summary of the general rating for the case factors revealed some interesting patterns between the subject conditions and across the five instructional scenarios.

Jury Teams: Of the six case factors surveyed (time delay, money found, ammonia trace, paraffin test, witness' identification, and defendant's testimony), the witness' testimony was rated the most important piece of information, across all five instructional conditions, for the Jury Teams ($M=1.80$)⁵ when

⁵The scale ranged from '1' for "very important" to '5' for "not

deciding the case verdict. The second most important factor was the paraffin test ($\bar{M}=2.50$) which was used to determine whether any gun powder residue remained on the defendant's hands after he had allegedly shot the gun. The third most important factor was the defendant's testimony ($\bar{M}=2.85$) between the shooting and eyewitness identification. The money found in the defendant's room was considered to be the least important factor ($\bar{M}=3.77$). However, based on the chi-square analysis, none of the case factors were rated any more important than any other factor between the five instructional conditions.

Individual Respondents: The results for the Individual Respondents were similar to those of the Jury Teams. The witness' testimony was considered the most important factor ($\bar{M}=2.14$), the paraffin test the second most important ($\bar{M}=2.55$), and defendant's testimony the third most important factor ($\bar{M}=2.68$). Money, as with the Jury Teams, was considered the least important factor ($\bar{M}=3.39$) when deciding the verdict of the case. None of the case factors were rated significantly more important than any of the others between the five instructional conditions.

When t-tests were run on each of the six case factors by the five instructional conditions, no statistically significant differences were observed between the Jury Teams and Individual Respondents' mean rating of the case factors.

5(cont'd) at all important".

Although not statistically significant, it is interesting to observe that opinion evidence (e.g., witness' identification and defendant's testimony) was, overall, rated more important than the factual evidence (e.g., time delay, money found, etc.). Yet, it is usually factual evidence upon which most attorneys try to build their case. In general, the latter observation lends support to those findings of Loftus (1979) who found that, depending on the nature of the evidence presented, jurors may place an inordinate amount of trust and faith in opinion evidence such as an eyewitness' testimony. However, as will be discussed shortly, the jurors *did not* appear to take such evidence at face value, but rather differentially weighted the evidence available and then made their decisions. Their confidence in these decisions was reflected in both their confidence score and in their comments to question number four.

Decision-making Process for Case Verdict

In an effort to understand and define the optimal conditions in which a judicial instruction on eyewitness testimony might be most effective in helping jurors to reach their decision, one of the questions for each of the scenarios asked jurors to describe how they arrived at their decision (see question number 4 in Appendix B). It was felt that by analyzing the comments describing their decision-making process it would provide some insight into which cautionary procedure would be most effective in reaching the most confident decision as well as gain insight

into the cognitive and social processes involved in decision-making (Hastie et al., 1983).

As noted earlier, the purpose of the question was to examine whether jurors differentially consider case facts depending on the manner and timing in which they are instructed by the judge or an expert witness.

In order to be able to interpret their written responses to question number 4, all the responses for the Individual Respondents and Jury Teams were read, by the researcher, for comments referring to any system or estimator variables as they related to the case.⁶ These responses were then recorded and tallied for each instructional condition by decision type. A summary of the response patterns is presented in Table 34.

An examination of these responses provide some possible explanations for the response patterns witnessed in Table 33. For example, both the Jury Teams and Individual Respondents felt that to have \$100 or more in one's room was not unusual and that if the defendant had presented an alibi, he might have easily been able to account for the money. The witness' testimony was considered important, but many of the respondents wanted to know more about some of the estimator type variables as they related to the eyewitness (e.g., her age, eyesight, relation to the victim and location within the store). This observation suggests

⁶Ideally, "blind" judges should have been used to score the responses in order to minimize any validity threats to the scoring process. However, because I was unable to obtain any volunteers at the time, the researcher coded them.

that jurors are at least somewhat sensitive to some of the problems associated with eyewitness identification as well as being more actively interested in examining the facts than some judges and lawyers have suggested (see Brigham & Bothwell, 1983; Buckhout, 1976). What remains unclear is to what extent knowledge about such factors or sensitivity to eyewitness issues are adequate to ensure that they can "properly" assess the accuracy and reliability of a witness' testimony. The results from Experiment 1, however, raise some doubt about whether or not jurors are sufficiently aware and informed to interpret reliably an eyewitness' testimony. Further discussion about this will be presented in the General Discussion section.

The nature of the responses to the question supports the recommendation made by Buckhout (1973) and Severance et al. (1984) that jurors deserve greater respect as thinking individuals and that they should be allowed to play a more active role in the trial.⁷ They should be encouraged to speak up, to visit the scene of the crime, to take notes, etc.

Based on a simple frequency count of responses, it was observed that both the Jury Teams and Individual Respondents

⁷Buckhout (1973:11) strongly supports the idea that jurors should be able to: (1) Participate actively: "to speak up, to ask questions directly of witnesses, to take notes, to visit the scene of the crime and to function as an active finder of fact." (2) Be trained: "We recommend that a series of films be created to help train jurors "about their duties, basic legal concepts, ...and elementary group dynamics", and (3) Change in juror criteria: "we recommend higher pay for jurors, the elimination of automatic exemption from jury duty, ...possibly allowing ex-felons to serve as jurors."

felt that a lack of alibi from the defendant and questions raised about the witness' credibility (i.e., witness' age, eyesight, race, and distance from the scene of the crime) were the main reasons why the defendant could not be found guilty or innocent. By contrast, for those who chose guilt or innocence, both the Jury Teams and Individual Respondents felt that it was either the witness' testimony or one or more of the other six factual factors which persuaded them to reach a verdict. In this case, the results support the observations of Loftus (1979) and Yarmey (1979), among others, who report that jurors may place an inordinate amount of weight on a witness' testimony without being aware of some of the problems inherent with such evidence. The results would also appear to provide general support for the findings by Hans and Doob (1976) who reported that jurors do not always pay attention to, or obey, a judge's charges. As Buckhout (1973, 1977) has suggested, it may be that jurors make up their mind about a case early in a trial and are not readily influenced by a judge or the testimony of an eyewitness expert. What needs to be determined is whether this is due to the nature of the instructions, the timing of the instructions, or some variation of these possibilities.

The distribution of the responses also revealed that respondents to the five different scenarios raised several different concerns (see Table 34). For example, in the condition involving "expert's testimony", half of the Jury Teams raised questions about the role of the expert's testimony. They

generally felt that the expert's instructions were not specific enough in the defendant's case. The individuals responding to the "no instruction" condition expressed the least amount of confidence in their decision and most often requested additional information, especially that concerning the defendant's background, his alibi as well as more details about the eyewitness. Their lack of confidence in the facts provided in the case appeared to be reflected in the fact that they selected the "insufficient evidence" option more frequently than any of the other possible verdicts.

Of the eighteen different factors identified by the Jury Teams and Individual Respondents in their decision-making processes, the average number of factors each group actually used in their decision-making was 10.2 items. Those responding to the judge's "minimal instruction" condition had the highest overall average score of 12 items while the rest averaged approximately ten items per decision. The Jury Teams averaged only marginally fewer items per decision ($M=10.0$) than the Individual Respondents ($M=10.2$).

Since t-tests indicated that the differences in the average number of items used by group condition were not statistically significant, the data are not useful in determining whether decision-making is more information efficient in a group or whether instructions do play a role in helping jurors to focus on the key issues and facts as they relate to the case. Future research should attempt to explain whether or not instructions

assist or interfere with jurors reaching the *right* decision and the process used in deciding which facts of the case are relevant.

Summary

The jury trial is an important institution whose form and place have been controversial and the subject of much research. While there are many issues which can be studied (some of these were identified in Chapter VI), Experiment 2 focused on how a judge's caution about the problematic nature of eyewitness testimony might prepare jurors for a more critical, reliable, and accurate evaluation of it.

Five instructional conditions (system variables) were used (no instruction, expert testimony, judge's informal forewarning, judge's minimal postwarning, and judge's informal postwarning). None of the hypotheses tested were supported. Contrary to speculation, instructions as opposed to no instruction did not significantly reduce the proportion of guilty verdicts; forewarning was no more effective in minimizing the proportion of guilty decisions than the postwarning procedure; and the expert testimony message did not impact the proportion of guilty verdicts when compared to the no instruction condition. Furthermore, the manipulation of certain case factors (estimator variables) did not affect the outcome of the cases. Together, neither the manipulation of the system nor estimator variables

were able to reveal any significant differences in jurors decision-making patterns. Overall, these results are generally inconsistent with a number of the previous studies done in this area (e.g., Cavoukian, 1980; Dillehay & Neitzel, 1985; Hastie et al., 1983; Kassin & Wrightsman, 1979).

In addition to looking at the effect of cautionary messages on jurors decision-making, the design method also allowed for an analysis of the jury decision-making processes. The primary purpose was to examine whether group (Jury Teams) decisions are superior to individual (Individual Respondents) decisions and to explore the extent to which it could be argued that jurors in criminal cases deserve to play a more active role. There was no statistical support for the contention that jurors (Jury Teams) would serve a more practical and useful role in assessing the accuracy of eyewitness testimony than would Individual Respondents. Although the Jury Teams tended to use more case facts than the Individual Respondents, the distribution of the verdicts was not significantly different for the two across the instructional conditions. These results make it difficult to support the content of Buckhout and others that jurors serve a useful role in the courtroom.

The final chapter presents a general review and discussion of the findings from Experiments 1 and 2. In addition, a number of methodological problems are discussed and several recommendations for future research are offered.

Table 28

Summary of case verdicts for Jury Teams and Individual Respondents by type of Instruction

Jury Teams (N=8)*/Individual Respondents (N=40)

Type of Instruction	VERDICT			Mean Score
	Guilty	Not Guilty	Insufficient Evidence	
No Instruction	37 5/35 0%	12 5/12 5%	50 0/52 5%	2.37/2.40
Expert's Testimony	25 0/37 5	0 0/20 0	75 0/42 5	2.75/2.22
Judge's Informal Forewarning	25 0/20 0	0 0/25 0	75 0/55 0	2.75/2.30
Judge's Minimal Postwarning	37 5/30 0	25 0/17 5	37 5/52 5	2.12/2.35
Judge's Informal Postwarning	12 5/20 0	12 5/30 0	75 0/50 0	2.62/2.20
Column Average	27 5/28 5%	10 0/21 0%	62 5/50 5%	2.52/2.29

* Each Jury Team included 5-7 members

Table 29

Summary of case verdicts for combined scores of Jury Teams and Individual Respondents: Judicial Instruction vs. No Instruction

Type of Instruction	VERDICT			Insufficient Evidence %/No.
	Guilty %/No.	Not Guilty %/No.		
No Instruction (N=48)	33.3% 16	10.4% 5		56.3% 27
Judicial Instruction(1) (N=144)	24.3 35	22.9 33		52.8 76
Column Average	26.6 38	19.8 51		53.6 103

(1) Judicial Instruction condition included Judge's forewarning and both postwarning conditions.

Table 30

Summary of case verdicts for combined scores of Jury Teams and Individual Respondents: Forewarning vs. Postwarning

Type of Instruction	VERDICT		
	Guilty %/No.	Not Guilty %/No.	Insufficient Evidence %/No.
Forewarning (N=48)	22.9% 11	22.9% 11	54.2% 26
Postwarning(1) (N=96)	25.0 24	22.9 22	52.1 50
Column Average	24.3 35	22.9 33	52.8 76

(1) Postwarning condition included: Judge's minimal postwarning and the judge's informal postwarning instructional conditions.

Table 31

Summary of case verdicts for combined scores of Jury Teams and Individual Respondents: Expert Testimony vs. No Instruction

Type of Instruction	VERDICT		
	Guilty %/No.	Not Guilty %/No.	Insufficient Evidence %/No.
Expert Testimony (N=48)	35.4% 17	16.7% 8	47.9% 23
No Instruction (N=48)	33.3% 16	10.4% 5	56.3% 27
Column Average	34.4% 33	13.5% 13	52.1% 50

Table 32

Summary of confidence rating scores for Jury Teams and Individual Respondents by type of Instruction

Type of Instruction	Jury Teams(N=8)*/Individual Respondents (N=40)			Average Confidence Rating
	Very Confident Options 1 & 2	Option 3	Not Confident Options 4 & 5	
No Instruction	62.5/62.5%	37.5/30.0%	0.0/7.5%	2.37/2.30
Expert's Testimony	87.5/67.5	12.5/15.0	0.0/17.5	1.75/2.37
Judge's Informal Forewarning	87.5/70.0	12.5/15.0	0.0/15.0	1.50/2.37
Judge's Minimal Postwarning	100/75.0	0.0/20.0	0.0/5.0	1.75/2.20
Judge's Informal Postwarning	87.5/70.0	12.5/12.5	0.0/17.5	1.87/2.37
Column Average	85.0/69.0%	15.0/18.5%	0.0/12.5%	1.84/2.32**

* Each Jury Team included 5 to 7 members.

** t-test(238)=2.93, p < 0.01 (two-tailed)

Table 33

Q 3. Average rating of importance of case factors for Jury Teams and Individual Respondents by type of Instruction

Type of Instruction	Jury Teams(N=8)*/Individual Respondents(N=40)										Overall Average Score	
	Time(1) Delay	Money Found	Ammonia Trace	Paraffin Test	Witness's Testimony	Defendant's Testimony	Ammonia Trace	Paraffin Test	Witness's Testimony	Defendant's Testimony		
No Instruction	3.62/3.12	3.37/3.47	3.37/3.05	2.75/2.75	1.87/1.80	2.62/2.50						2.93/2.78
Expert's Testimony	2.62/3.15	4.12/3.32	3.12/2.97	2.87/2.80	1.75/2.35	3.12/2.85						3.47/2.90
Judge's Informal Forewarning	3.65/2.87	3.50/3.12	3.12/2.92	1.75/2.42	1.62/2.30	3.25/2.45						2.81/2.68
Judge's Minimal Postwarning	3.62/3.75	4.00/3.50	3.12/2.90	1.87/2.52	1.25/2.00	3.87/2.90						2.95/2.83
Judge's Informal Postwarning	3.25/2.85	3.87/3.52	3.50/3.15	3.25/2.75	2.50/2.25	2.37/2.70						3.12/2.87
Column Average	3.05/3.07	3.77/3.39**	3.35/3.00**	2.50/2.55	1.80/2.14**	2.85/2.68						2.88/2.83

(1) Scale ranges from '1', "very important" to '5', "not at all important"

* Each Jury Team included 5-7 members.

** t-test, (238) $p < 0.05$ or better (2-tailed).

Table 34
 0.4 Percent of responses to decision-making process for Jury Teams and Individual Respondents by type of Instruction.

Jury Teams (N=8) / Individual Respondents (N=40)*

FACTORS IDENTIFIED IN DECISION PROCESS	No Instruction	Expert's Testimony	Judge's Informal Forewarning	Judge's Minimal Postwarning	Judge's Informal Postwarning
- delay in identification	7.5	12.5/12.5	12.5/2.5	12.5/5.0	25.0/7.5
- money found	25.0/2.5	5.0	12.5/5.0	37.5/7.5	
- ammonia trace	12.5/7.5	5.0	5.0	25.0/7.5	
- paraffin test	12.5/12.5	25.0/10.0	7.5	25.0/17.5	2.5
- witness testimony	75.0/45.0	50.0/20.0	62.5/25.0	100/	12.5
- defendant's alibi	87.5/40.0	62.5/32.5	62.5/35.0	87.5/37.5	62.5/32.5
- photo spread/line-up		25.0/10.0	25.0/2.5	25.0/2.5	62.5/17.5
- expert's testimony		37.5/27.5			25.0/15.0
- location of gun	50.0/5.0	20.0	62.5/20.0	50.0/17.5	
- insufficient evidence/ circumstantial evidence	37.5/15.0	37.5/15.0	50.0/7.5	62.5/17.5	50.0/12.5
- judge's instruction	12.5/		50.0/10.0	2.5	37.5/12.5
- store conditions/layout	5.0		5.0	12.5/2.5	25.0/
- prosecutor and poor case				12.5/	
- psychological report on defendant	12.5/	12.5/			12.5/
- type of building defendant lived in				12.5/	
- finger prints	12.5/		12.5/		
- more cross-examination				2.5	
- additional witnesses	10.0	12.5/		5.0	25.0/
Avg No of items used	10/10	9/10	9/10	12/12	10/9

* Each Jury Team included 5-7 members

CHAPTER XI

GENERAL DISCUSSION

Alice is being quizzed by the White Queen.

"Let's consider your age...how old are you?"

"I'm seven and a half, exactly."

"You needn't say exactly," the White Queen remarked.

"I can believe it without that. Now I'll give you something to believe. I'm just one hundred and one, five months and a day."

"I can't believe that!" says Alice...

"I dare say you haven't had much practice," said the Queen. "When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."

Alice in Wonderland.

Experiment 1

As expected, the results from the first experiment revealed that knowledge about how system or estimator variables relate to the eyewitness' testimony and identification is not intuitive. This finding is generally consistent with what has been reported in the literature.

Even though the psychologists' overall performance was significantly better than that of the student jurors or police officers, none of the groups' average number of correct answers was greater than 55%. Also, since the mean correct score for each group was fairly low (ranging from 9.86 to 11.5 across 21 items), the results support the contention that jurors, police

officers, and lawyers should not rely on their own intuitions about eyewitness issues when assessing the accuracy of such testimony. Rather, if anything, they should seek out informed expert opinion on such matters (cf., Deffenbacher & Loftus, 1982; Yarmey & Jones, 1983). Several studies have shown that expert testimony on eyewitness matters can reduce the tendency of subject jurors to believe eyewitnesses (e.g., Brooks, 1983; Loftus, 1980; Wells et al., 1979, 1980).¹ Furthermore, since the overall average *correct* response rate was fairly low (46.6%), it cannot be inferred that one's intuitive level of awareness about important eyewitness variables or one's practical training (e.g., police officers & lawyers) alone are a guarantee that such individuals will be more accurate in assessing eyewitness testimony than non-trained and non-informed individuals.

The findings of Experiment 1 also support the contention that the expressed level of confidence in one's answer does not positively correlate with whether or not the answer is *correct*. Nor does answering correctly on one answer serve to guarantee a respondent will respond correctly on a related question.

In sum, the results from Experiment 1 lend further support to the observations that lay people are not reliable triers of eyewitness testimony. This observation is consistent with what is reported in the literature (see Brigham & Bothwell, 1983; Deffenbacher & Loftus, 1982; Loftus, 1979; Yarmey & Jones, 1983;

¹Experiment 2 was not able to support this observation, but several problems are identified which might help to explain the lack of support.

Wells & Lindsay, 1983). Most importantly perhaps is the observation that the student 'jurors' averaged the lowest *correct* response rate ($M=9.86$). This finding provides further support for the argument that jurors require informed advice about eyewitness variables (see Champagne & Nagel, 1982; Loftus, 1979; Sales et al., 1977; Yarmey, 1979). As with any empirical study, however, a number of methodological concerns were identified which may affect the generalizability or ecological validity of the findings presented in this study.

Having used undergraduate criminology students in Experiment 1 to represent the less well *informed* segment of the population (they were considered comparable to lay jurors) may have inflated the overall *correct* response rate for this group. The nature of the student composition may represent a threat to the external validity of the study. The students' overall level of knowledge about eyewitness variables was slightly higher than that found in Yarmey and Jones' (1983) study (46.2% vs. 41.9%). Although the student sample consisted of a cross-section of lower and upper level undergraduates, there is a chance that these students were generally more knowledgeable about eyewitness issues since their course options included such areas as criminal law, criminal procedure and evidence, and the criminal justice system. To varying degrees, some of the courses cover basic information about eyewitness research issues. However, it is questionable whether one or two lectures on eyewitness testimony is sufficient to account for the difference

between the Yarmey and Jones' study and the present study. Even if the students are slightly more informed than true lay jurors, then any generalization to real jurors would be more reliable since the student jurors' score would represent an overestimation of a lay juror's ability; and the student jurors' score was, at best, unimpressive.

After comparing their findings with those of Loftus and Porietas (cited in Loftus, 1979), Yarmey and Jones (1983:37) suggest that since the pattern of responses on the five questions that were common to both studies was similar for their respective student juror samples and since in the Loftus and Porietas study there was no significant difference between the citizen jurors and student jurors, "their (Yarmey & Jones') results are generalizable to a wider population." Yarmey and Jones argue that since there was no significant difference, students can readily be used in experimentation on eyewitness testimony. In fact, the use of student samples is almost encouraged since they are more accessible than citizen juror samples. The only exception they note is when the questions involve "areas where knowledge, which might be loosely termed 'academic', is concerned" (p. 37).² Regardless, before any generalizations are made to lay jurors, further replication is strongly recommended. Any attempt to replicate this study, however, should ensure that not only are the potential juror

²For an interesting counter view to this recommendation, see Bray and Kerr (1982). But, as they note, the arguments for or against the use of students is partly dictated by the type of question(s) being asked.

subjects eligible to serve jury duty, but that prior jury experience (see Dillehay & Nietzel, 1985; Loftus, 1982) and/or personality type³ (see Eugenio, 1976; Sales et al., 1977) are controlled for, as well. Such procedures would help to minimize problems of construct validity and would increase internal validity, as well as the generalizability of the results to similar populations.

The psychologists, who were classified as representing the most *informed* group, had a lower overall *correct* score than anticipated ($M=11.5$ or 54.7% *correct*). Even though this group is not comparable to the experts used by Yarmey and Jones (1983), it was interesting to observe that the psychologists still averaged more *correct* responses than the other groups. These findings provide general support for the observation made by Wells and Lindsay (1983) that not only are people generally poor judges of eyewitness accuracy, but that eyewitnesses lack awareness about the errors of their own memory. The results would appear to provide support for the argument put forth regarding the use of a metamemory analysis which is based on the attribution theory (see Brown, 1986). While admitting the model is far from complete, Wells and Lindsay argue that it represents "a starting point for understanding the way people judge eyewitness evidence" (p. 53). As Nisbett and Borgida (1975) have observed, we are inclined to behave and perceive things in a

³Eugenio (1976) using measures of authoritarianism, as obtained from the Legal Attitudes Questionnaire, found that both situational variables and personality characteristics may influence the outcome of a trial by jury.

manner that is consistent with our understanding of them. This line of interpretation will be returned to shortly.

The differences between Yarmey and Jones' study and the work presented here might reflect the fact that Yarmey and Jones used psychologists trained in areas related to eyewitness identification and testimony. Controlling for areas of specialization in the present study would have increased the construct and internal validity for the group of psychologists. Yarmey and Jones (1983:15) collected data only from psychologists "who had published controlled, quantitative studies in refereed journals on eyewitness identification and testimony". There needs to be some caution, however, in interpreting the term *experts*. Namely, such psychologists would be experts in the knowledge of the literature pertaining to eyewitness matters, but it must be kept in mind that the literature does not provide us with consistent evidence and conclusions on such matters (see Konečni & Ebbesen, 1986, for a similar interpretation). Such inconsistency among the research findings is reflected in Yarmey and Jones' study by the fact that across all the items, the experts *correct* response rate was 76.7%.

In their study, Yarmey and Jones (1983) observed that the responses to certain items by the other groups were not significantly different from those of the experts. They suggested that this has less to do with the "sophistication level of knowledge by the 'non-experts'" (p. 37) than with the

fact that problems exist with the research in those areas.⁴ Based on the results from the first experiment, it is possible that some of the variations in responses are not only due to problems with the research in the area, but may also reflect experiential and training biases that various sectors of the population develop through their professional and personal experiences. The police, for example, appear to have certain misconceptions about the memory abilities of eyewitnesses and how best to obtain reliable accounts from them (cf., Yarmey, 1982, 1986). One of the notable observations from the data analysis suggests that the law enforcement officers appear to accept, on face value, the validity of eyewitness identification (cf., Brigham & Wolfskeil, 1983). These misconceptions might well be related to how the police have been trained to interview eyewitnesses, conduct line-ups or use photo spreads. Both Brooks (1983) and the LRC, working paper No. 27 (1980) note that, in Canada, there are few written guidelines for police officers to follow in such instances.

It is a well documented fact (see Black, 1971; Quinney, 1970) that the police have a great deal of discretionary power in law enforcement situations. While this discretionary power, in and of itself, may in some instances be "good" (see Bittner, 1967), it may not be as positive in situations where an officer is involved in questioning an eyewitness or asking him/her to identify a suspect through the use of a line-up or by looking at

⁴For a general review of some of these areas and problems, see Chapter IV.

mug-shots. Unfortunately, a number of the investigative procedures used by the police today are the product of earlier research in the area of eyewitness identification and testimony. Some of the procedures (used in the questioning of eyewitnesses or in line-up construction), for example, have recently been shown to be less reliable than initially thought. Although specific guidelines in such instances will not guarantee the accuracy and reliability of eyewitness testimony, they could enhance the reliability and consistency of pre-trial identification procedures. This would not only serve to improve current law enforcement practices, but it would also represent a step toward ensuring that when an eyewitness does testify, many of the potential factors which could interfere with the witness' recall and/or recognition memory would not have been inadvertently biased by pre-trial investigation procedures.

Similarly, although lawyers reflect a reasonable awareness of how various procedural issues regarding eyewitness questioning and identification (i.e., lineups and photo arrays) can affect the reliability of an eyewitness' testimony, they do not appear to be as aware of the effects that various intervening estimator variables (e.g., age of witness, violence of the event, presence of a weapon, etc.) might have on specific aspects of an eyewitness' testimony. Furthermore, it is not likely that they would be able to identify these issues through cross-examination (see Brigham & Wolfskeil, 1983). Even though a few of the lawyers suggested that they would be able to uncover

these important variables through cross-examination, the results imply that unless the lawyers were aware that certain aspects surrounding an eyewitness' viewing of the crime could influence his/her identification and testimony, they would be unlikely to pursue such a line of investigation. Similar suggestions have been offered by Severance et al. (1984). This situation could be further complicated by the recent observation made by Brigham and Wolfskeil (1983) who found that there were significant differences between defence attorneys and prosecutors with regard to their beliefs about eyewitness matters and the use of expert witnesses in court. Prosecuting attorneys, for example, indicated that they regard eyewitness identification as relatively accurate while defence attorneys felt that eyewitness identifications are often inaccurate.

While it was noted in the introduction to this section that there was no support for the proposition that regardless of one's practical training or experience, knowledge about eyewitness identification and testimony is intuitively known or based on common sense, it was interesting to observe that overall 3% of the responses selected were for the option "Other" and 8.8% for the option "Don't know". The fact that 11.8% of all the respondents chose the "Other" and "Don't know" options lends support to the proposition that they felt: (1) the questions were too ambiguous to select a *correct* answer, (2) they did not know the answer, (3) the options were too simplistic to warrant choosing an answer, or, (4) that the evidence was too

inconclusive to warrant an answer (see Wells & Lindsay, 1983). The lawyers, for example, represented the group who most frequently chose the "Other" option (6.2%) and the "Don't know" option (12.2%). For the "Don't know" option, the psychologists were a close second at 11.8%. The fact that the lawyers chose these options more frequently than the other groups may reflect not so much a lack of intuitive knowledge, but rather, a realization or appreciation of the complexity of the relationship between system and estimator variables and the reliability of an eyewitness' testimony. Whether the proportion of respondents who chose the "Other" or "Don't know" option is high or low cannot be determined since there is no comparable data. Future research, however, should attempt to probe why people choose these options and to what extent this is important (see Warnick & Sanders, 1980).

The fact that the "Other" and "Don't know" options were used by all the groups provides support for the inclusion of these options. They help to reflect more reliably the response patterns of the respondents and, as indicated by this study, provide further insight into the perceptual patterns of different groups. For example, did lawyers select the "Other" and "Don't know" options because of their experience in court or because of their general negativistic attitudes toward the psychology profession? Does the fact that the police chose these options less often than the other groups support the general beliefs that police officers are trained to be decisive in

judgment situations and are more confident about their knowledge of eyewitness issues?

Experiment 2

The results of Experiment 2 failed to provide any clear empirical support for the proposition that the timing, nature, and order of instructing a jury of the requirements of proof and the limitations of eyewitness testimony would impact the jury's final verdict. Despite the lack of empirical support, the patterns in the results are generally consistent with those of Cavoukian (1980), Kassin and Wrightsman (1979), as well as with several of the observations made by the Hosch, Beck and McIntyre (1980), LRC (1980), and Loftus (1980). That is, the provision of forewarning instructions may be more instructive for jurors than providing them with instructions after the case has been heard (e.g., judge's postwarning and minimal postwarning). Contrary to expectations, however, the expert testimony condition did not have the same impact as the forewarning condition. However, before any of the patterns can be accepted as providing support for the earlier findings, further replication of the results with reliable differences is necessary.

Experiment 2 was designed to meet two main objectives. First, since there has been some controversy about the effects of jury instruction, juries and their ability to properly assess the facts of a case (see Lempert, 1986), Experiment 2 attempted

to contribute to the growing body of literature in this area by testing how various temporal versions of instructing jurors (in groups and individually) would affect their decision-making process. The second objective was to obtain feedback about how respondents either individually or as a team processed case information; how they responded to different forms of instruction - especially that of experts; and how confident they felt about their decisions. This was accomplished through the questions which accompanied each of the trial scenarios. Lempert (1986:175) recently suggested that these type of issues are important as he noted "[p]sychologists could better contribute to decisions that the law must reach if they expanded their research horizons to encompass the questions of how jurors currently evaluate eyewitness testimony and how their evaluations are affected when experts appear."

The results supported the proposition that the level of confidence would be greater for the Jury Teams than for Individual Respondents (jurors). Compared to the Individual Respondents, the Jury Teams when instructed by the judge tended to be more discerning about which items they used in their decision-making process. This difference was not, however, statistically significant. Therefore, the results from Experiment 2 provide only tentative support for those observations reported by Buckhout (1973) and Severance et al. (1984) who contend that trial by jury should not be abandoned as Jury Team decisions appeared to be more consistent and reliable

than decisions made by Individual Respondents. Although the relative merits of the jury system continue to be debated (see, for example, LRC, 1980; Marshall, 1969), juries still remain an integral part of our court system, especially in situations where the prosecution does not have a clear-cut case (see Kerr, 1982). However, because there were no significant differences in the outcome patterns across the instructional conditions by type of subject condition, support for the continued use of jurors cannot be based in the argument that jury teams are better at assessing the guilt or innocence of a defendant than an individual respondent.

Overall, few of the hypotheses for Experiment 2 were supported. Since most of the hypotheses were based on previous research findings and observations, a number of reasons for the lack of support or rejection of previous findings are offered. For example, although only eight Jury Teams and forty Individual Respondents completed each instructional condition, the structure of the scenarios may not have been sophisticated or detailed enough to enable any significant trends to emerge. This appears to have been somewhat borne out in the fact that the overall percent of "insufficient evidence" decisions for both the Jury Teams and Individual Respondents was fairly high (59%). However, since some of the differences were consistently in the predicted direction (e.g., forewarning vs. postwarning instructions, expert testimony vs. no instruction, and no instruction vs. judicial instructions), but not statistically

significant, more research is encouraged.

The fact that there were no significant differences between the responses for two fact conditions (Facts A and Facts B) may also reflect the lack of differences between the case scenarios. Since some of the key variables (e.g., age of witness, race of witness, and time of apprehension) did not affect the case outcome, it is suspected that the manner in which the murder trial was described was either too vague or lacked enough information to allow any differences to emerge. Again, this may be part of the reason why there were so many "insufficient evidence" decisions.

A final consideration is that the sample size for the Jury Team was too small. With only eight Jury Teams making decisions on each of the five instructional conditions, a few different case verdicts could easily negate the trend of the other groups. Based on the findings from similar studies, it appears that some aspect of the experiment was at fault. A number of recommendations to minimize this possibility will be offered shortly.

Experiments 1 and 2

Collectively, the two experiments provide evidence which supports the contention that expert witnesses might be able to play an useful role in the courtroom. Lay persons are not sufficiently aware or informed about eyewitness issues for the

court to be able to trust that they will be able to reliably assess an eyewitness' testimony. However, the results also raise concerns about the application of expert testimony in the courtroom. Since the results from Experiment 1 and those of Yarmey and Jones are not one-hundred percent reliable, we must question the ethical implications of the role of experts in relation to the court and the jurors. As Carroll and Payne (1977:194), in both their review and study of parole decision-making, observed:

experts in a wide variety of fields have shown the popular concept of 'expertise' to be substantially a myth. The expert may be better informed than the layperson, but essentially the expert operates with knowledge and skills, misinformation and bias, common to us all.

The results from the two experiments also provide evidence to support the recent argument and evidence (see Brigham et al., 1982; Konečni & Ebbesen, 1981, 1986; Yuille & Cutshall, 1986) that *in situ* studies and archival research may be superior to laboratory and jury simulation studies when examining these issues. For example, despite having used an actual trial summary and despite careful manipulation of certain independent variables which had been explored to varying degrees by others only one of the hypotheses tested in Experiment 2 was empirically supported (confidence and subject condition). Consequently, the results provided only tentative insight into a number of the issues examined. Similarly, in Experiment 1, concern was raised about the reliability and validity of some of

the questions, given a number of dramatic discrepancies when compared with similar studies.

Although it can be argued that *in situ* studies may raise problems with internal validity (see Bray & Kerr, 1982), they do increase external validity which has been much neglected in simulation jury decision-making studies. Increasing the external validity of such studies might go a long way in helping to bridge the gap between social science research and the legal profession. As legal professionals become increasingly aware of the practical applicability of such results, they may become less skeptical about referring to social science research findings.⁵ Extrapolation of laboratory findings to the real world has plagued social science research (primarily psychologists) for many years, and given the difficulties experienced in the present study, the problem has not been resolved as yet.

The need for established court procedures received some general support from the data presented in this study. Since Canadian courts "do not exclude evidence of an improperly conducted pre-trial identification procedure" (Brooks, 1983:6), it is unlikely that questions of pre-trial identification

⁵Loftus (1986) presents an interesting discussion about whether experts should play the role of "advocates" or "impartial educators" when called to testify in court. Her answer reflects the reality of the courtroom environment and the general relationship between law and psychology. She suggests that psychologists adopt a Darwinian approach - that is, the role which enhances their (psychologists') survival in the legal market.

procedures will be raised in court. Brooks found that not only are there few established guidelines for local police departments on how to properly conduct line-ups, question witnesses, and record testimony, but the guidelines that are available are far from comprehensive, provide little guidance, differ from police department to police department, and are not always adhered to sufficiently.

The results in the present study indicate that the present practice of judges arbitrarily deciding whether or not to instruct the jury on matters of eyewitness testimony (see LRC, working paper No. 27, 1980:98) *must* be more closely studied.

Finally, because of the composition of the psychologists' group in Experiment 1, it is not possible to say emphatically whether expert witnesses in eyewitness matters should be permitted to testify in court on behalf of the defence or the Crown. The data do provide some basis for recommending that if expert witnesses are to be allowed to testify, they should meet the strict criteria of an "expert witness", that is, a witness having "special knowledge of the subject about which he is to testify...that knowledge must generally be such as is not normally possessed by the average person" (Gifis, 1975:76). In addition, any testimony that they provide should be presented in their usual cautious and guarded manner rather than in the factual manner which is usually sought in court. Their testimony should not be intended to address specifically either the case of the defence or the Crown's case, but to speak in general

terms about the accuracy and reliability of eyewitness testimony. As Bazelon (1982) has noted, it is not natural for psychologists to respond to questions in a factually definitive manner. They tend to respond in a manner which is cautionary and which does not fit well into trial conditions. Bazelon's observation appears to be supported in the present study as the psychologists were the most guarded about their responses to the questions in Experiment 1.

If experts are to be permitted or even encouraged to testify in court, then as has been suggested by Gudjonsson (1984), guidelines should be made available to psychologists so that their services can best be maximized and the friction between law and psychology can be partially minimized as they seek a mutual ground upon which to communicate. And, as has recently been addressed by several prominent individuals in the field (both psychologists and lawyers), researchers need to gain not only a clearer understanding of the cognitive processes of people's responses to eyewitnesses, but researchers also need to define the ethical parameters within which psychologists will choose to perform while in court (see McCloskey, Egeth, & McKenna, 1986). These issues merit further expert investigation.

Future Research

While it is hoped that the present study has provided some further insight into the many complex issues which surround the

accuracy and reliability of eyewitness testimony as it relates to intuitive knowledge and the handling of such testimony (evidence) in the courtroom, a number of the shortcomings of the methodology and results from the present study have raised several questions. These areas of concern should be addressed by future researchers. Several of the key areas for future investigation include:

1. Examining more closely those areas where misconceptions about eyewitness research findings and beliefs or practices are held by jurors, lawyers, judges, and police officers. Since not all groups had the same misconceptions, it would be useful to explore why different sectors of the population have different perceptions about eyewitness identification and testimony issues. Therefore, further attention as to how people with different backgrounds infer accuracy is recommended (cf., Wells & Lindsay, 1983). Based on the limited evidence available, this line of investigation should focus on people's perceptions of how specific system and estimator variables relate to eyewitness identification (see Wells & Wright, 1986).
2. Texts on experimental design and methodology continually stress the relevance of replication and the pros and cons of field versus laboratory type studies. Future research should attempt to gain access to real trials which could then form the basis of written case summaries or perhaps be videotaped and used later for simulation type studies. Replication or simulated trial studies are important since it is not

legally or ethically possible to manipulate real court case proceedings. One recent event which may help to open the doors for more *in situ* type research was the documentary done on jury room decision-making by the Public Broadcasting Service (PBS) (April 8, 1986).⁶ As has been repeatedly noted, if psychology is going to play any role in the legal arena, then psychologists must begin to address the specific needs of that area by getting their "hands dirty".⁷ As Woocher (1986:60) recently observed: "[a]ttempts should be made wherever possible to simulate real-life conditions...so that the expert's test...cannot be criticized as too far removed from reality to bear any relevance to the court proceedings."

3. More studies on eyewitness identification and testimony should be conducted in a natural setting. Such a practice would enable the recording of actual behaviors in their natural environment. In addition, researchers could then make better use of archival or documented evidence from the police for cross validation purposes. Although such studies

⁶It took three and a half years of negotiations for PBS to finally gain access, for the first time in history, to video tape a real criminal trial and the deliberation of the jury. The situation obviously had all the characteristics of reality and it demonstrated a number of areas which would clearly benefit from investigation under such conditions.

⁷The final consideration that should be addressed is that future research on eyewitness identification and testimony issues *must* make every effort to integrate other methodologies. While laboratory studies provide easy and "clean" environments in which to examine various issues, it is important that we begin to use archival (see Konečni & Ebbesen, 1981, 1986) and *in situ* studies (e.g., Brigham et al., 1982; Yuille & Cutshall, 1986).

are difficult to undertake, of the few studies which have been done (e.g., Brigham et al., 1982, Yuille & Cutshall, 1986), the results have been very useful. As Yuille and Cutshall (1986:31) note, their study "represents a first step toward building a data base relating to real-world eyewitnesses...we will be better able to assess the generalizability of our laboratory findings to the criminal justice system."

4. Using the original report/testimony given by an eyewitness, develop a test or procedure which could reliably predict whether or not the witness would be able to correctly identify the suspect. One such attempt was made by researchers, in 1974, at the Centre for Responsive Psychology at Brooklyn College, New York (see Williams, 1975). The test was based on the theoretical model known as Signal Detection Theory.⁸ Prediction models or techniques have been around a long time, but they have not yet been applied to the area of eyewitness identification. Given the problems that jurors have with assessing the reliability or validity of such evidence, it would seem worthwhile to

⁸A search of the literature has failed to uncover what, if anything, has become of the test. The study of decision-making theory, however, has been a popular area of study. Pennington and Hastie (1981) present a general discussion and review of the Signal Detection Theory and several other major decision-making models, including: information integration models, sequential weighting model, the Bayesian probability model, Poisson model, as well as non-models. These models all attempt to account mathematically for all the complex factors (e.g., legal norms, cost and benefits, and social pressure within the jury) which impact a case decision. They conclude that while the models are promising, they are generally not readily generalizable to natural settings. Also, see Wells and Lindsay (1983:54).

develop some kind of indicator measure or improve existing ones that would tell us whether to accept/permit certain types of eyewitness statements. Such a measure could serve as an additional screening tool for the police, lawyers and ultimately the court system. If an expert witness must qualify to give testimony, why can we not demand the same from an eyewitness?

5. Develop a readily usable information feedback system or network which could provide psychologists, police officials, lawyers practising criminal law, and the courts with information about both the outcomes of cases involving the testimony of eyewitnesses and the empirical findings by social scientists investigating eyewitness testimony and identification related issues. Any such efforts, however, should ensure that the information is not merely a descriptive account of events and findings, but rather is presented in a manner which is both of practical and theoretical value. Unless this kind of information is disseminated, key actors in criminal trials will continue to believe that their intuitive beliefs about eyewitness testimony and identification are accurate ones. It is only objective feedback that will minimize the risk of intuitive biases which presently exists.

It seems apparent that many issues being researched still require further investigation and replication before we can begin to accept any of the observations with any degree of

reliability. Replication through different methods will help to increase the external validity and generalizability of such research. This is essentially what is necessary if research findings are going to be of any use to the legal profession and the courts. As Yarmey (1979:227) has noted: "the time is now ripe for the integration of psychological theories, methodologies, and findings with the law" (also, see Lempert, 1986:168-70). These efforts will help not only to increase the ecological validity, but also the external validity of such studies.

Once researchers begin to do this, we will then be able to address some of the practical problems that confront both psychologists and various members of the legal profession, as well as begin to define some of the theoretical issues which underlie eyewitness identification and testimony. Until this happens, the knowledge and information available on eyewitness identification and testimony will only be of limited use to the legal profession and law enforcement. As Grano (1984:335) has commented: "for as long as convictions rest on the testimony of eyewitnesses, there will be pressure to adapt new safeguards to ensure that the innocent are not wrongly convicted."

Summary

As noted in the Preface, this study was prompted by a field study of a robbery prevention program for convenience stores in Vancouver. From a number of problems and concerns which emerged from the study regarding the use of the eyewitness description sheets in the program, several practical and theoretical questions repeatedly surfaced. They became the focus for this research.

Using the concerns from the robbery study as a backdrop for formulating a series of quantifiable questions, two experiments were designed to address the questions raised. The first experiment focused primarily on examining the knowledge base of the four different population groups. The groups used in the study included student 'jurors' (N=68), lawyers (N=38), psychologists (N=30), and police officers (N=68). Testing the participants was accomplished by having them complete a 25-item multiple-choice type questionnaire. Twenty-two of the questions focused on eyewitness identification and testimony variables which had been empirically investigated and found to affect the reliability of such evidence. The primary purpose of these questions was to ascertain whether knowledge about eyewitness issues "falls within the province of common knowledge" (Yarmey & Jones, 1983:33). The remaining three questions asked the participants to respond to items concerning controversial courtroom procedures, such as: should eyewitness experts be

allowed to testify in court, how skeptical should jurors be about eyewitness evidence, and should judges be required to instruct jurors about the limitations of eyewitness testimony. The questions also addressed some of the issues focused on in Experiment 2.

The second experiment represented an extension of the first. It relied on a written case summary of an actual murder trial. The case summary was altered in order to include different system factors (e.g., judge's instruction) and estimator variables (e.g., eyewitness' testimony, money found, ammonia trace, etc.), several of which were also examined in Experiment 1. The key issue studied in Experiment 2 was whether altering certain estimator and system variables would affect juror decision-making patterns. More specifically, the experiment was designed in order to investigate issues regarding jury decision-making and case outcomes such as: the effect of jury size on case decisions, the effect of different jury instructional conditions on case decisions, the extent to which jury size might be related to the number of facts necessary to reach a decision, as well as the juror's level of confidence in the decision.

Results from Experiment 1 did not support the proposition that knowledge about eyewitness issues is a matter of common sense and that such information is intuitively known. The results did provide some evidence to suggest that awareness about situations and factors that might affect the reliability

of eyewitness identification or testimony might be influenced by one's experiential and/or professional education and training. Each group appeared to perform better on some subject areas than others. It was recommended that a closer application of metamemory analysis and attribution theory be employed.

Results from Experiment 2 tended to support the observation in Experiment 1 that knowledge about eyewitness issues is not a matter of common sense since none of the various instructional conditions produced any differences in the case outcome. The respondents did not appear to be sensitive enough about eyewitness issues or cautioning thereof for any of the instructional conditions to reflect themselves in the outcomes. While few of the hypotheses tested were supported, the general trends in the data (especially Experiment 1) suggest that the courts could benefit from closer scrutiny and co-operation with empirically oriented research studies.

The thesis, while designed to test various propositions, was also exploratory in nature since the evidence or knowledge with regard to some of the issues is still limited and numerous questions still remain to be answered. It is hoped that the present work has been able to address some of the issues surrounding these general objectives. It is realized that not all the questions can be answered by one study alone. Therefore, it is hoped that the results and questions raised in the present study will also inspire others to continue to investigate some of the concerns raised.

Since eyewitness testimony is an integral part of our criminal justice system, the legal profession, law enforcement agencies, and psychologists must work together to bring about a clearer understanding of the problems which surround this issue. This must be done at both a practical and theoretical level if such information is to be of any use outside of a laboratory setting. As Nagel (1986) has observed, research on eyewitness issues in the past was not well suited for policy considerations. In order for it to have an impact on legal policy, research must not only be properly conducted but it must be "presented in the context of political needs and realities" (Nagel, 1986:11).

If the work presented here has added to the growing body of knowledge in the area and if it can inspire others to replicate the study and pursue some of the questions raised, then a major portion of the study's objectives has been achieved.

REFERENCES

- Adams, J.A. (1976). Learning and memory. Homewood, IL: The Dorsey Press.
- Anastasi, A. (1964). Fields of applied psychology. New York: McGraw-Hill.
- Angelomatis, C.S. (1986). The child witness: Victim of criminal justice? A policy analysis. Unpublished manuscript, School of Criminology, Simon Fraser University, Burnaby, B.C.
- Appeal judges acquit Sophonow. (1985, Dec. 13). The Sun, Vancouver daily newspaper, p. 1.
- Baddeley, A., & Woodhead, M. (1983). Improving face recognition. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 125-136). Toronto: John Wiley and Sons.
- Badgely Report. (1984). Sexual offences against children Vols. 1 & 2. Ottawa: Canadian Government Publishing Centre, Supply and Services Canada.
- Bahrack, H., Bahrack, P., & Wittlinger, R. (1975). Fifty years of memory for names and faces: A cross-sectional approach. *Journal of Experimental Psychology: General*, 104, 54-75.
- Baltes, P.B., & Schaie, K.W. (1974). Aging and I.Q.: The myth of the twilight years. *Psychology Today*, 7, 35-40.
- Bazon, D.L. (March, 1980). Eyewitness news. *Psychology Today*, 101-106.
- Bazon, D.L. (1982). Veils, values, and social responsibility. *American Psychologist*, 37(2), 115-121.
- Berkun, M.M., Bialek, H.M., Kern, R.P., & Yagi, K. (1962). Experimental studies of psychological stress in man. *Psychological Monographs*, 76, No. 15.
- Bertillon, A. (1896). Signaletic instructions: The theory and practice of anthropometrical identification. Edited and translated by R.W. McCloughry. Chicago: The Werner Co.
- Bittner, E. (1967). The police on skid row: A study of peace keeping. *American Sociological Review*, 32, 699-715.
- Black, D.J. (1971). The social organization of arrest. *Stanford Law Review*, 23, 1087-1111.
- Borchard, E.M. (1932). Convicting the innocent. New Haven, CT:

- Bower, G.H. (1981, June). Mood and memory. *Psychology Today*, 60-69.
- Bower, G.H., & Karlin, M.B. (1974). Depth of processing picture of faces and recognition memory. *Journal of Experimental Psychology*, 103(4), 751-757.
- Brandon, R., & Davies, C. (1973). Wrongful imprisonment: Mistaken convictions and their consequences. London: Archon Books.
- Brannigan, A. (1984). Crimes, courts and corrections. Toronto: Holt, Rinehart and Winston. (Chapter 9).
- Brantingham, P.L. (1981). The Burnaby, British Columbia experimental public defender project: An evaluation. The Evaluation and Statistics Section, Department of Justice Canada, Ottawa, Ont. K1A 0H8.
- Bray, R.M., Kerr, N.L. (1982). Methodological considerations in the study of the psychology of the courtroom. In R.M. Bray & N.L. Kerr (Eds.), The psychology of the courtroom (pp. 287-324). New York: Academic Press.
- Brigham, J.C. (1980). Perspectives on the impact of lineup composition, race, and witness confidence on identification accuracy. *Law and Human Behavior*, 4(4), 315-322.
- Brigham, J.C., & Bothwell, R.K. (1983). The ability of prospective jurors to estimate the accuracy of eyewitness identification. *Law and Human Behavior*, 7(1), 19-30.
- Brigham, J.C., & Barkowitz, P. (1978). Do they all look alike? Experience, attitudes, and the ability to recognize faces. *Journal of Applied Social Psychology*, 8, 306-318.
- Brigham, J.C., Maass, A., Snyder, L.D., & Spaulding, K. (1982). Accuracy of eyewitness identification in a field setting. *Journal of Personality and Social Psychology*, 42, 673-681.
- Brigham, J.C., & Ready, D.J. (1985). Own race bias in lineup construction. *Law and Human Behavior*, 9(3), 415-424.
- Brigham, J.C., & Wolfskeil, M.P. (1983). Opinions of attorneys and law enforcement personnel on the accuracy of eyewitness identification. *Law and Human Behavior*, 7(4), 337-349.
- Brooks, N. (1983). Police guidelines: Pretrial eyewitness identification procedures. Law Reform Commission of Canada. Ottawa: Ministry of Supply and Services Canada.

- Brown, E., Deffenbacher, K., & Sturgill, W. (1977). Memory for faces and the circumstances of encounter. *Journal of Applied Psychology*, 62, 311-318.
- Brown, R. (1986). Social psychology: The second edition. New York: Free Press.
- Buckhout, R. (1973). Action and Change. *Social Action and the Law*, 1(1), 11.
- Buckhout, R. (1974). Eyewitness testimony. *Scientific American*, 231(6), 23-31.
- Buckhout, R. (1976). Nobody likes a smartass: Expert testimony by psychologists. *Social Action and the Law*, 3(4), 41-52.
- Buckhout, R. (1977). All in favor...unanimous vs. majority verdict in jury deliberation. *Social Action and the Law*, 4(3), 15-18.
- Buckhout, R. (1984). Double mistaken identification in Dallas: Texas v. Lenell Geter and Anthony Williams. *Social Action and the Law*, 10(1), 3-11.
- Buckhout, R., Figueroa, D., & Hoff, E. (1975). Eyewitness identification: Effects of suggestion and bias in identifications from photographs. *Bulletin of the Psychonomic Society*, 6(1), 71-74.
- Buckhout, R., Weg, S., Reilly, V., & Frohboese, R. (1977). Jury verdicts: Comparison of six vs. twelve person juries, unanimous vs. majority decision in a murder trial. *The Bulletin of the Psychonomic Society*, 10(5), 175-178.
- Canadian Evidence Act*. (amended 1970). Revised Statutes of Canada.
- Cane, L.R., Finkelstein, R.K., & Goetze, H.J. (1979). Can child eyewitnesses be trusted? *Psychology Today*, 13, 3.
- Carey, S., & Diamond, R. (1977). From piecemeal to configuration of faces. *Science*, 195, 312-314.
- Carey, S., Diamond, R., & Woods, B. (1980). Development of face recognition - A maturation component? *Developmental Psychology*, 16, 257-269.
- Carmichael, L., Hogan, H.P., & Walter, A.A. (1932). An experimental study of the effect of language on the reproduction of visually perceived form. *Journal of Experimental Psychology*, 15, 73-86.
- Carroll, J.S., & Payne, J.W. (1977). Judgments about crime and

- the criminal. In B.D. Sales (Ed.), Perspectives in law and psychology (Vol. 1, pp. 191-240). New York: Plenum Press.
- Cavoukian, A. (1980). The influence of eyewitness identification evidence. Unpublished doctoral dissertation, University of Toronto, Dept. of Psychology.
- Champagne, A., & Nagel, S. (1982). The psychology of judging. In R.M. Bray & N.L. Kerr (Eds.), The psychology of the courtroom (pp. 257-286). New York: Academic Press.
- Chance, J., & Goldstein, A.G. (1976). Recognition of faces and verbal labels. *Bulletin of the Psychonomic Society*, 7, 384-386.
- Christie, D.F.M., & Ellis, H.D. (1981). Photofit construction versus verbal description of faces. *Journal of Applied Psychology*, 66(3), 358-363.
- Clifford, B.R. (1976, April 22). Police eyewitnesses. *New Society*, 176-177.
- Clifford, B.R., & Bull, R. (1978). The psychology of person identification. London: Routledge & Kegan Paul.
- Clifford, B.R., & Hollin, C.R. (1981). Effects of the type of incident and the number of perpetrators on eyewitness memory. *Journal of Applied Psychology*, 66(3), 364-370.
- Clifford, B.R., & Lloyd-Bostock, S. (1983). Witness evidence: Conclusion and prospects. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 285-290). Toronto: John Wiley & Sons.
- Clifford, B.R., & Scott, J. (1978). Individual and situational factors in eyewitness testimony. *Journal of Applied Psychology*, 63, 352-359.
- Cohen, A.A. (1973). Number of features, and alternatives per feature, in reconstructing faces with the Identi-kit. *Journal of Police Science and Administration*, 1, 349-354.
- Cole, F.G. (1979). The American system of criminal justice (2nd ed.). North Scituate, MA: Duxbury Press.
- Conroy, J.W. (Nov. 1985). Criminal evidence: Eyewitness identification (Chapt. 1). Manuscript prepared for Continuing Legal Education, Vancouver, British Columbia, Canada.
- Cook, T.D., & Campbell, D.T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Chicago:

Rand-McNally.

- Craik, F.I.M., & Lockhart, R.S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11, 671-684.
- Dane, F.C. (1985). In search of reasonable doubt. *Law and Human Behavior*, 9(2), 141-157.
- D'Angelo, Jr. F.G. (1979). Earwitness identification. *Social Action and the Law*, 5(2), 18-19.
- Davies, G.M. (1983). Forensic face recall: The role of visual and verbal information. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 103-124). Toronto: John Wiley & Sons.
- Davies, G.M., Ellis, H.D., & Shepherd, J.W. (1978). Face recognition as a function of representation. *Journal of Applied Psychology*, 63, 180-187.
- Davis, J.H., Kerr, N.L., Atkin, R.W., Holt, R., & Meek, D. (1975). The decision processes of six- and twelve-person mock juries assigned unanimous and 2/3 majority rules. *Journal of Personality and Social Psychology*, 1(32), 1-14.
- Daw, P.S., & Parkin, A.J. (1981). Observations on the efficiency of two different processing strategies for remembering faces. *Canadian Journal of Psychology*, 35(4), 351-355.
- Deffenbacher, K.A. (1980). Eyewitness accuracy and confidence: Can we infer anything about their relationship? *Law and Human Behavior*, 4, 243-260.
- Deffenbacher, K.A. (1983). The influence of arousal on reliability of testimony. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 219-234). Toronto: John Wiley & Sons.
- Deffenbacher, K.A., & Loftus, E.F. (1982). Do jurors share a common understanding concerning eyewitness behavior? *Law and Human Behavior*, 6(1), 15-30.
- Devlin Report. (1976). Report to the Secretary of State for the Home Department of the Departmental Committee on Evidence of Identification in Criminal Cases. HMSO, London.
- Diamond, R., & Carey, S. (1977). Developmental changes in the representation of faces. *Journal of Experimental Child Psychology*, 23, 1-22.

- Dillehay, R.C., & Nietzel, M.T. (1985). Juror experience and jury impact. *Law and Human Behavior*, 9(2), 179-191.
- Doob, A.N., & Kirshenbaum, H.M. (1972). Some empirical evidence on the effect of s.12 of the Canadian Evidence Act upon the accused. *Criminal Law Quarterly*, 15, 88-96.
- Dyas v. United States. (1977). In K.A. Deffenbacher & E.F. Loftus. (1982). Do jurors share a common understanding concerning eyewitness behavior? *Law and Human Behavior*, 6(1), 15-30.
- Edwards, A.L. (1941). Political frames of reference as a factor influencing recognition. *Journal of Abnormal and Social Psychology*, 36, 35-50.
- Egan, D., Pittner, M., & Goldstein, A.G. (1977). Eyewitness identification photographs vs. live models. *Journal of Applied Social Psychology*, 1, 199-205.
- Egeth, H.E., & McCloskey, M. (1984). Expert testimony about eyewitness behavior: Is it safe and effective? In G.L. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 283-303). New York: Cambridge Un. Press.
- Einhorn, H.J., & Hogarth, R.M. (1978). Confidence in judgment: Persistence of the illusion of validity. *Psychological Review*, 85(5), 395-416.
- Elliot, E.S., Will, E.J., & Goldstein, A.G. (1973). The effect of discrimination training on the recognition of white or oriental faces. *Bulletin of the Psychonomic Society*, 2, 71-73.
- Ellis, H.D. (1975). Recognizing faces. *Br. Journal of Psychology*, 66(4), 409-426.
- Ellis, H.D. (1981). Theoretical aspects of face recognition. In G. Davies, H. Ellis, & J. Shepherd (Eds.), Perceiving and remembering faces (pp. 171-197). New York: Academic Press.
- Ellis, H.D. (1984). Practical aspects of face memory. In G.L. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 12-37). New York: Cambridge Un. Press.
- Ellis, H.D., Shepherd, J., & Bruce, A. (1973). The effect of age and sex upon adolescents' recognition of faces. *The Journal of Genetic Psychology*, 123, 173-174.
- Elwork, A., Hansen, D.A., & Saks, B.D. (1986). The problem with jury instructions. In M.F. Kaplan (Ed.), The impact of social psychology on procedural justice (pp. 214-225).

Springfield, IL: Charles C. Thomas.

Elwork, A., Sales, B.D., & Alfini, J.J. (1977). Juridic decisions: In ignorance of the law or in light of it? *Law and Human Behavior*, 1(2), 163-189.

Eugenio, P. (1976). Jury selection: Personality and group dynamics. *Social Action and the Law*, 5(3), 61-62.

Flin, R.H., & Shepherd, S.W. (1986). Tall stories: Eyewitnesses' ability to estimate height and weight characteristics. *Human Learning*, 5(1), 29-38.

Garcia, L.T., & Griffitt, W. (1978). Impact of testimonial evidence as a function of witness characteristics. *Bulletin of the Psychonomic Society*, 2(1), 37-40.

Geiselman, R.E., Fisher, R.P., Mackinnon, D.P., & Holland, H.L. (1985). Eyewitness memory enhancement in the police interview: Cognitive retrieval mnemonics versus hypnosis. *Journal of Applied Psychology*, 70(2), 401-412.

Gerbasi, K., Zuckerman, M., & Reis, H. (1977). Justice needs a new blindfold: A review of mock jury research. *Psychological Bulletin*, 84, 323-345.

Gifis, S.H. (1975). Law dictionary. Woodbury, N.Y.: Barron's Educational Series, Inc.

Going, M., & Read, J.D. (1974). Effect of uniqueness, sex of subject, and sex of photograph on facial recognition. *Perceptual and Motor Skills*, 39, 109-110.

Goldstein, A.G. (1977). The fallibility of the eyewitness: Psychological evidence. In B.D. Sales (Ed.), Psychology in the legal process (pp. 223-247). New York: Spectrum.

Goodman, G.S. (1984). The child witness: An introduction. *Journal of Social Issues*, 40(2), 1-7.

Goodman, G.S., & Reed, R.S. (1985). Age differences in eyewitness testimony. Unpublished manuscript, University of Denver, Denver, CO.

Grano, J.D. (1984). A legal response to the inherent dangers of eyewitness identification testimony. In G.L. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 315-335). New York: Cambridge Un. Press.

Greene, E., & Loftus, E.F. (1985). When crimes are joined at trial. *Law and Human Behavior*, 9(2), 193-207.

Greenspan, E.L. (1982). The role of the defence lawyer in

- sentencing. In C.L. Boydell & I.A. Connidis (Eds.), The Canadian Criminal Justice System (pp. 200-210). Toronto: Holt, Rinehart and Winston.
- Greer, D.S. (1971). Anything but the truth: The reliability of testimony in criminal trials. *Br. Journal of Criminology*, 11, 131-154.
- Griffiths, C.T., Klein, J.F., & Verdun-Jones, S.N. (1980). Criminal justice in Canada: An introductory text. Vancouver: Butterworth & Co.
- Grosman, B.A. (1982). The prosecutor. In C.L. Boydell & I.A. Connidis (Eds.), The Canadian Criminal Justice System (pp. 160-176). Toronto: Holt, Rinehart and Winston.
- Gudjonsson, G.H. (1984). The current status of the psychologist as an expert witness in criminal trials. *Bulletin of the British Psychological Society*, 37, 80-82.
- Hagan, J. (1977). The disreputable pleasures. Toronto: McGraw-Hill Ryerson.
- Hans, V.P., & Doob, A.N. (1976). Section 12 of the Canadian Evidence Act and the deliberation of simulated juries. *Criminal Law Quarterly*, 18, 235-253.
- Hans, V.P., & Vidmar, N. (1982). Jury selection. In N.L. Kerr & R.M. Bray (Eds.), The psychology of the courtroom (pp. 39-82). New York: Academic Press.
- Harris, M. (1986). Justice denied: The law versus Donald Marshall. Toronto: Macmillan of Canada.
- Hastie, R., Penrod, S.D., & Pennington, N. (1983). Inside the jury. Cambridge, MA: Harvard University Press.
- Hays, W.L. (1981). Statistics (3rd ed.). Holt, Rinehart and Winston.
- Hervey, J.C. (1947). Jurors look at our judges. *Oklahoma Bar Association Journal*, 25, 1508-1513.
- Hoffman, C., & Kagan, S. (1977). Field dependence and facial recognition. *Perceptual and Motor Skills*, 44, 119-124.
- Hollin, C.R. (1981). Nature of the witnessed incidents and status of interviewer as variables influencing eyewitness recall. *British Journal of Social Psychology*, 20(4), 295-296.
- Hollin, C.R. (July, 1982). Legal psychology: The strength of experiments in eyewitness testimony. Paper presented at the

International Conference on Psychology and Law, Swansea, England.

- Hooten, E.A. (1939). Crime and the man. Cambridge, MA: Harvard University Press.
- Horton, D.L., & Mills, C.B. (1984). Human learning and memory. *Annual Review of Psychology*, 35, 361-394.
- Hosch, H.M., Beck, E.L., & McIntyre, P. (1980). Influence of expert testimony regarding eyewitness accuracy on jury decisions. *Law and Human Behavior*, 10(1/2), 287-296.
- Hosch, H.M., & Platz, S.J. (1984). Self-monitoring and eyewitness accuracy. *Personality and Social Psychology Bulletin*, 10(2), 289-292.
- Howells, T.H. (1938). A study of the ability to recognize faces. *Journal of Abnormal and Social Psychology*, 33, 124-127.
- Hyman, P. (1944). Do they tell the truth? *Public Opinion Quarterly*, 8(4), 557-559.
- Jacoby, L.L., & Dallas, M. (1981). On the relationship between autobiographical memory and perceptual learning. *Journal of Experimental Psychology: General*, 36, 306-340.
- Johnson, M.K., & Foley, M.A. (1984). Differentiating fact from fantasy: The reliability of children's memory. *Journal of Social Issues*, 40, 33-50.
- Joiner, C.W. (1971). Jury trials: Improved procedures. In D.G. Douglas & P. Noble (Eds.), Justice on trial (pp. 40-66). Skokie, IL: National Textbook.
- Jury Act*. (1979). Revised Statutes of British Columbia, Section 3(2), c. 210.
- Kagan, J., Klein, R.E., Haith, M.M., & Morrison, F.J. (1973). Memory and meaning in two cultures. *Child Development*, 44, 221-223.
- Kalven, J., Jr., & Zeisel, H. (1971). The American jury. Chicago: University of Chicago Press.
- Kassin, S.M., & Wrightsman, L.S. (1979). On the requirements of proof: The timing of judicial instruction and mock juror verdicts. *Journal of Personality and Social Psychology*, 17(10), 1877-1887.
- Kenneback, E. (1975). From the jury box. In R.J. Simon (Ed.), Jury system in America (pp. 235-249). Beverly Hills: Sage.

- Kerr, M., & Winograd, E. (1982). Effects of contextual elaboration on face recognition. *Memory and Cognition*, 10(6), 603-609.
- Kerr, N.L. (1982). Trial participants' behavior and jury verdicts: An exploratory field study. In V.J. Konečni & E.B. Ebbesen (Eds.), The criminal justice system: A social-psychological analysis (pp. 260-290). San Francisco: W.H. Freeman & Co.
- Kerr, N.L., Atkin, R.S., Stasser, G., Meek, D., Holt, R.W. & Davis, J.H. (1976). Guilt beyond a reasonable doubt: Effects of concept definition and assigned decision rule on the judgments of mock jurors. *Journal of Personality and Social Psychology*, 34, 282-294.
- King, M.A. & Yuille, J.C. (1986). The child witness. *Highlights*, 8(1), 25-27.
- Konečni, V.J., & Ebbesen, E.B. (1981). A critique of theory and method in social-psychological approaches to legal issues. In B.D. Sales (Ed.), The trial process (Vol. 2, pp. 481-498). New York: Plenum Press.
- Konečni, V.J. & Ebbesen, E.B. (1986). Courtroom testimony by psychologists on eyewitness identification issues. *Law and Human Behavior*, 19(1/2), 117-126.
- Kramer, T.H. (1984). The effect of weapon focus and arousal on eyewitness recall. Unpublished doctoral dissertation, Graduate Faculty in Psychology, City University of New York, New York.
- Kretchmer, E. (1926). Physique and character. trans. W.H. Sprott. New York: Harcourt, Brace.
- Kuehn, L.L. (1974). Looking down a gun barrel: Person perception and violent crime. *Perceptual and Motor Skills*, 89, 1159-1164.
- Labaw, P.J. (1980). Advanced questionnaire design. Cambridge, MA: Abt Books.
- Laughery, K.R., Alexander, J.E., & Lane, A.B. (1971). Recognition of human faces: Effects of target exposure time, target position, pose position, and type of photograph. *Journal of Applied Psychology*, 55, 477-483.
- Laughery, K.R., & Fowler, R.F. (1980). Sketch artists and Identikit procedures for recalling faces. *Journal of Applied Psychology*, 65, 307-316.
- Law Reform Commission (1980). Criminal Law: The jury on criminal

trials, working paper No. 27. Ottawa: Ministry of Supply and Services Canada.

Law Reform Commission (1984). Investigative tests, working paper No. 34. Ottawa: Ministry of Supply and Services Canada.

Leippe, M.R., Wells, G.L., & Ostrom, T.M. (1978). Crime seriousness as a determinant of accuracy in eyewitness identification. *Journal of Applied Psychology*, 63(3), 345-351.

Lempert, R.O. (1986). Social science in court: On "eyewitness experts" and other issues. *Law and Human Behavior*, 10(1/2), 167-181.

Levine, M., Farrell, M.P., & Perrotta, P. (1981). The impact of rules of jury deliberation on group developmental processes. In B.D. Sales (Ed.), The trial process, (Vol. 2, pp. 263-304). New York: Plenum Press.

Lind, E.A. (1982). The psychology of courtroom procedure. In R.M. Bray & N.L. Kerr (Eds.), The psychology in the courtroom (pp. 13-38). New York: Academic Press.

Lindsay, R.C.L., Marando, L., Lim, R., & Cully, D. (in press). Mock-juror evaluations of eyewitness testimony: A test of metamemory hypothesis. *Journal of Applied Social Psychology*.

Lindsay, R.C.L., & Wells, G.L. (1983). What do we really know about cross-race eyewitness identification. In S.M.A. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 219-233). Toronto: John Wiley & Sons.

Lipton, J.P. (1977). On the psychology of eyewitness testimony. *Journal of Applied Psychology*, 62, 90-95.

Lloyd-Bostock, S., & Clifford, B.R. (Eds.). (1983). Evaluating witness evidence: Recent psychological research and new perspectives. Toronto: John Wiley & Sons.

Loftus, E.F. (1975). Leading questions and the eyewitness report. *Cognitive Psychology*, 7, 560-572.

Loftus, E.F. (1979). Eyewitness testimony (2nd ed.). Cambridge, MA: Harvard University Press.

Loftus, E.F. (1980). Impact of expert psychological testimony on the unreliability of eyewitness identification. *Journal of Applied Psychology*, 65(1), 9-15.

Loftus, E.F. (1984, February). Eyewitnesses: Essential but unreliable. *Psychology Today*, 22-26.

- Loftus, E.F. (1986). Experimental psychologists as advocate or impartial educator. *Law and Human Behavior*, 10(1/2), 63-76.
- Loftus, E.F., & Greene, E. (1980). Warning: Even memory for faces may be contagious. *Law and Human Behavior*, 4(4), 323-334.
- Loftus, E.F., & Monahan, J. (1980). Trial by data: Psychological research as legal evidence. *American Psychologist*, 35, 270-283.
- Loh, W.D. (1981). Psychological research: Past and present. *Michigan Law Review*, 79, 659-707.
- Malpass, R.S., & Devine, P.G. (1981). Guided memory in eyewitness identification. *Journal of Applied Psychology*, 66, 343-350.
- Malpass, R.S., & Devine, P.G. (1983). Measuring the fairness of eyewitness identification lineups. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 81-102). Toronto: John Wiley & Sons.
- Malpass, R.S., & Kravitz, J. (1969). Recognition for faces of own and other "race". *Journal of Personality and Social Psychology*, 13, 330-335.
- Malpass, R.S., Lavigueur, H., & Weldon, D.E. (1973). Verbal and visual training in face recognition. *Journal of Perception and Psychophysics*, 14(2), 285-292.
- Mandler, G. (1980). Recognizing: The judgment of previous occurrence. *Psychological Review*, 87, 252-271.
- Marin, B.V., Holmes, D.L., Guth, M., & Kovac, P. (1979). The potential of children as eyewitnesses. *Law and Human Behavior*, 4(4), 295-306.
- Marshall, J. (1969). Law and psychology in conflict. Garden City, NY: Doubleday.
- Mauldin, M.A., & Laughery, K.R. (1981). Composite production effects on subsequent facial recognition. *Journal of Applied Psychology*, 66(3), 351-357.
- McCloskey, M., & Egeth, H.E. (1983, May). Eyewitness identification: What can a psychologist tell a jury? *American Psychologist*, 550-563.
- McCloskey, M., Egeth, H., & McKenna, J. (1986). The experimental psychologist in court: The ethics of expert testimony. *Law and Human Behavior*, 10(1/2), 1-15.

- McCloskey, M., & Zaragoza, M. (1985). Misleading postevent information and memory for events: Arguments and evidence against memory impairment hypotheses. *Journal of Experimental Psychology: General*, 114, 1-16.
- McGehee, F. (1937). Reliability of the identification of human voice. *Journal of General Psychology*, 249-271.
- McKelvie, S. (1976). The effect of verbal labeling on recognition memory for schematic faces. *Quarterly Journal of Experimental Psychology*, 28, 459-474.
- Melton, G.B. (1981). Children's competency to testify. *Law and Human Behavior*, 5, 73-85.
- Miller, G.R., & Burgoon, J.K. (1982). Factors affecting assessments of witness credibility. In N.L. Kerr & R.M. Bray (Eds.), The psychology of the courtroom (pp. 169-196). New York: Academic Press.
- Moore, L.E. (1973). The jury: Tool of kings; Palladium of liberty. Cincinnati: W.H. Anderson.
- Mueller, J.H., Carlomusto, M., & Marler, M. (1977). Recall as a function of method of presentation and individual differences in test anxiety. *Bulletin of the Psychonomic Society*, 10, 447-450.
- Nagel, S.S. (1986). Factor facilitating the utilization of legal policy evaluation research. In M.F. Kaplan (Ed.), The impact of social psychology on procedural justice (pp. 17-39). Springfield, IL: Charles C. Thomas.
- Nagel, S., Neff, M., & Lamm, D. (1981). Decision theory and jury decision-making. In B. Sales (Ed.), The trial process. New York, Plenum Press.
- Nisbett, R.E., & Borgida, E. (1975). Attribution and the psychology of prediction. *Journal of Personality and Social Psychology*, 32, 932-43.
- Parker, G. (1977). An introduction to criminal law. Toronto: Metheun.
- Patterson, K.E., & Baddeley, A.D. (1977). When face recognition fails. *Journal of Experimental Psychology: Human Learning and Memory*, 3(4), 406-417.
- Pennington, N., & Hastie, R. (1981). Juror decision making models: The generalization gap. *Psychological Bulletin*, 89, 246-287.
- Penry, J. (1971). Looking at faces and remembering them: A guide

to facial identification. London: Eleck Books.

- Platt, A., & Pollock, R. (1974). Channeling lawyers: The cheers of public defenders. In H. Jacob (Ed.), The potential for reform of criminal justice (pp. 235-262). Beverly Hills, CA: Sage.
- Porteous, J.D. (1977). Environment and behavior: Planning and everyday urban life (pp. 99-121). Reading, MA: Addison-Wesley.
- Quinney, R. (1970). Criminology: Analysis and critique of crime in America. Toronto: Little & Brown.
- Read, J.D. (1979). Rehearsal and recognition of human faces. *American Journal of Psychology*, 92(1), 71-85.
- Read, J.D., Barnsley, R.H., Ankers, K., & Whishaw, I.Q. (1978). Variations in severity of verbs and eyewitnesses' testimony: An alternative interpretation. *Perceptual and Motor Skills*, 46, 795-800.
- Read, J.D., & Bruce, D. (1984). On the external validity of question effects in eyewitness testimony. *International Review of Applied Psychology*, 33, 33-49.
- Reid, S.T. (1981). Crime and criminology (3rd ed.). Holt, Rinehart and Winston.
- Saks, M.J. (1977). Jury verdicts: The role of group size and social decision rule. Lexington, MA: Heath.
- Saks, M.J. (1982). Innovations and changes in the courtroom. In N.L. Kerr & R.M. Bray (Eds.), The psychology of the courtroom (pp. 325-352). New York: Academic Press.
- Saks, M.J. (1986). The impact of information: Data and evidence. In M.F. Kaplan (Ed.), The impact of social psychology on procedural justice (pp. 194-213). Springfield, IL: Charles C. Thomas.
- Sales, B.D., Elwork, A., & Alfini, J.J. (1977). Improving comprehension for jury instructions. In B.D. Sales (Ed.), Perspectives in law and psychology (Vol. 1, pp. 23-88). New York: Plenum Press.
- Sarason, I.G., Johnson, J.H., & Siegal, J.M. (1978). Assessing the impact of life change: The development of the Life Experience Survey. *Journal of Consulting and Clinical Psychology*, 46, 102-108.
- Saslove, H., & Yarmey, A. (1980). Long term auditory memory: Speaker identification. *Journal of Applied Psychology*, 65,

- Saunders, D.M., Vidmar, N., & Hewitt, E.C. (1983). Eyewitness testimony and the discrediting effect. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 57-78). Toronto: John Wiley & Sons.
- Schaie, K.W., & Gribbin, K. (1975). Adult development and aging. *Annual Review of Psychology*, 26, 65-96.
- Severance, L.J., Greene, E., & Loftus, E.L. (1984). Toward criminal jury instruction that jurors can understand. *The Journal of Criminal Law and Criminology*, 75(1), 198-233.
- Shapiro, D.L. (1984). Psychological evaluation and expert testimony: A practical guide for forensic work. New York: Van Nostrand Reinhold.
- Sheldon, W.H. (1940). The varieties of human physique: An introduction to constitutional psychology. New York: Harper and Row.
- Shepherd, J.W., & Ellis, H.D. (1973). The effect of attractiveness on recognition memory for faces. *American Journal of Psychology*, 86, 627-633.
- Siegel, J.M., & Loftus, E.F. (1978). Impact of anxiety and life stress upon eyewitness testimony. *Bulletin of the Psychonomic Society*, 12, 479-480.
- Smith, A.D., & Winograd, E. (1978). Adult age differences in remembering faces. *Developmental Psychology*, 14, 443-444.
- Sjoberg, G., & Nett, R. (1968). A methodology for social research. New York: Harper & Row.
- Sobel, N. (1972). Eyewitness identification. New York: Boardman. Supplement added, 1979. KF 162-20781
- Standing, L. (1973). Learning 10,000 pictures. *Quarterly Journal of Experimental Psychology*, 25, 207-222.
- Standing, L., Conezio, J., & Haber, R.N. (1970). Perception and memory for pictures: Single-trial learning of 2500 visual stimuli. *Psychonomic Science*, 19, 73-74.
- Strauss, W. (1982, January 18). B.C. legal aid study finds savings with staff lawyers. Globe and Mail, Toronto daily newspaper. p. 9.
- Strong, E.K. Jr. (1912). The effect of length of series upon recognition memory. *Psychology Review*, 19, 447-462.

- Suggs, D.L. (1979). The use of psychological research by the judiciary: Do the courts adequately assess the validity of the research? *Law and Human Behavior*, 3, 135-148.
- Taylor, J.P. (1984, Oct. 27). What you see may not be what you get. The Sun, Vancouver daily newspaper, p. A6.
- Tickner, A.H., & Poulton, E.C. (1975). Watching for people and actions. *Ergonomics*, 18, 35-51.
- Twining, W. (1983). Identification and misidentification in legal processes: Redefining the problem. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 255-284). Toronto: Wiley.
- Undeutsch, U. (1984). Courtroom evaluation of eyewitness testimony. *International Review of Applied Psychology*, 33, 51-67.
- Valenti, A.C., & Downing, L.L. (1975). Differential effects of jury size on verdicts following deliberation as a function of apparent guilt of the defendant. *Journal of Personality and Social Psychology*, 32, 655-663.
- Wall, P.M. (1965). Eyewitness identification in criminal cases. Springfield, IL: Charles C. Thomas.
- Warnick, D.H., & Sauders, G.S. (1980). Why do eyewitnesses make so many mistakes? *Journal of Applied Social Psychology*, 10(4), 362-366.
- Warrington, E.K., & Ackroyd, C. (1975). The effect of orienting tasks on recognition memory. *Memory and Cognition*, 3(2), 140-142.
- Wells, G.L. (1978). Applied eyewitness testing research: System variables and estimator variables. *Journal of Personality and Social Psychology*, 36(12), 1546-1557.
- Wells, G.L. (1984). How adequate is human intuition for judging eyewitness testimony? In G. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 256-272). New York: Cambridge Un. Press.
- Wells, G.L. (1986). Expert psychological testimony: Empirical and conceptual analyses of effects. *Law and Human Behavior*, 10(1/2), 83-95.
- Wells, G.L., Ferguson, T.J., & Lindsay, R.C.L. (1981). The tractibility of eyewitness confidence and its implications for triers of facts. *Journal of Applied Psychology*, 66, 688-696.

- Wells, G.L., & Hryciw, B. (1984). Memory for faces: Encoding and retrieval operations. *Memory and Cognition*, 12(4), 338-344.
- Wells, G.L., Leippe, M.R., & Ostrom, T.M. (1979). Guidelines for empirically assessing the fairness of a lineup. *Law and Human Behavior*, 3, 285-293.
- Wells, G.L., & Lindsay, R.C.L. (1983). How people infer the accuracy of eyewitness memory: Studies of performance and a metamemory analysis. In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 41-56). Toronto: Wiley.
- Wells, G.L., Lindsay, R.C.L., & Ferguson, T.F. (1979). Accuracy, confidence, and juror perceptions in eyewitness identification. *Journal of Applied Psychology*, 66(4), 440-448.
- Wells, G.L., & Loftus, E.F. (Eds.). (1984). Eyewitness testimony: psychological perspectives. New York: Cambridge Un. Press.
- Wells, G.L., & Murray, D.M. (1983). What can psychologists say about the Neil v. Biggers criteria for judging eyewitness accuracy? *Journal of Applied Psychology*, 68(3), 347-362.
- Wells, G.L., & Murray, D.M. (1984). Eyewitness confidence. In G.L. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 155-170). New York: Cambridge Un. Press.
- Wells, G.L., & Wright, E.F. (1986). Practical issues in eyewitness research. In M. Kaplan (Ed.), Impact of social psychology in procedural justice (pp. 109-134). Springfield, IL: Charles C. Thomas.
- Williams, L. (1975). "Application of signal detection parameters in a test of eyewitnesses to a crime." Brooklyn College, C.U.N.Y. Center for Responsive Psychology, Report No. CR-20.
- Wilson, C.R. (1975). Psychological opinions on the accuracy of eyewitness testimony. *The Judge's Journal*, 14, 72-74.
- Winer, B.J. (1962). Statistical principles in experimental design. New York: McGraw-Hill.
- Winograd, E. (1976). Recognition memory for faces following nine different judgments. *Bulletin of the Psychonomic Society*, 8, 419-421.
- Winograd, E. (1978). Encoding operations which facilitate memory for faces across the life span. In M.M. Gruneberg, P.E. Morros, & R.N. Sykes (Eds.), Practical aspects of memory.

New York: Academic Press.

- Winograd, E. (1981). Elaboration and distinctiveness in memory for faces. *Journal of Exp. Psych.: Human Learning and Memory*, 7(3), 181-190.
- Wissler, R.L., & Saks, M.J. (1982). Legal and psychological basis of expert testimony. *Behavioral Sciences and the Law*, 2, 435-449.
- Woocher, F.D. (1986). Legal principles governing expert testimony by experimental psychologists. *Law and Human Behavior*, 10(1/2), 47-62.
- Woodhead, M.M., Baddeley, A.D., & Simmonds, D.C.V. (1979). On training people to recognize faces. *Ergonomics*, 22(3), 333-343.
- Yarmey, A.D. (1973). I recognize your face but I can't remember your name: Further evidence on the tip-of-the-tongue phenomena. *Memory and Cognition*, 1, 287-290.
- Yarmey, A.D. (1979). The psychology of eyewitness testimony. New York: The Free Press.
- Yarmey, A.D. (1984). Age as a factor of eyewitness memory. In G.L. Wells & E.F. Loftus (Eds.), Eyewitness testimony: Psychological perspectives (pp. 142-154). New York: Cambridge Un. Press.
- Yarmey, A.D. (1986). Perceived expertness and credibility of police officers as eyewitnesses. *Canadian Police College Journal*, 10(1), 31-52.
- Yarmey, A.D., & Jones, H.P.T. (1983). Is the psychology of eyewitness identification a matter of common sense? In S. Lloyd-Bostock & B.R. Clifford (Eds.), Evaluating witness evidence: Recent psychological research and new perspectives (pp. 13-40). Toronto: John Wiley & Sons.
- Yarmey, A.D., Jones, H.P.T., & Rashid, S. (1985). Eyewitness memory of elderly and young adults. In D.J. Muller, D.E. Blackman, A.J. Chapman (Eds.), Perspectives in psychology and law. Chichester, England: Wiley.
- Yin, R.K. (1969). Looking at upside-down faces. *Journal of Experimental Psychology*, 81(1), 141-145.
- Yuille, J.C. (1980). A critical examination of the psychological and practical implications of eyewitness research. *Law and Human Behavior*, 4(4), 335-345.
- Yuille, J.C. (1984). Research and teaching with police: A

Yuille, J.C., & Cutshall, J.L. (1986). A case study of eyewitness memory of a crime. *Journal of Applied Psychology*, 71(2), 291-301.

Yuille, J.C., & McEwen, H. (1985). Use of hypnosis as an aid to eyewitness memory. *Journal of Applied Psychology*, 70(2), 389-400.

Zechmeister, E.B., Rusch, K.M., & Markell, R.A. (1986). Training college students to assess accurately what they know and don't know. *Human Learning*, 5(1), 3-20.

Ziskin, J. (1981). Coping with psychiatric and psychological testimony (3rd ed., Vol. 1). Venice, CA: Law and Psychology Press.

APPENDICES

APPENDIX A: EYEWITNESS QUESTIONNAIRE

Instructions:

Carefully read the following questions and circle the answer YOU feel is the best or most correct. For the purpose of the exercise assume that you are dealing with an "average" person who has no exceptional memory skills or abilities. If you honestly feel none of the options represent an acceptable answer circle the "Don't know" choice. If you wish to clarify your answer or offer an alternate response please use the "Other" option even if you answer "Don't know". Then, after each question, rate on a scale of 1 to 5 (1 being very confident and 5 meaning not at all confident) how confident you feel about your answer.

1. When a person is experiencing extreme stress as the victim of a crime, there will be:

1. Generally a greater ability to notice and remember the details of the event.
2. Generally the same ability to notice and remember the details of the event as under normal conditions.
3. A majority of people will become better at perceiving and recalling crime details whereas others will become worse at it.
4. Generally a reduced ability to perceive and recall the details.
5. Don't know.
6. Other: _____

1b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

g. Before beginning to answer the questionnaire, please mark below, on a scale of 1 to 5 (1 being well informed and 5 never having really read or heard much about eyewitness research), how well informed about eyewitness research findings/literature do you consider yourself to be?

well informed informed not well informed
1 2 3 4 5

h. What is the highest educational level you have completed or are presently completing?

- 1 Less than high school.
- 2 Completed high school.
- 3 Incomplete trade or vocational school.
- 4 Completed trade or vocational school.
- 5 Incomplete (completing) Bachelors degree .
- 6 Completed Bachelors degree.
- 7 Completed Law degree.
- 8 Current Law student.
- 9 Incomplete (completing) Masters degree or equivalent.
- 10 Completed Masters degree or equivalent.
- 11 Incomplete (completing) Doctoral program.
- 12 Completed Doctoral program.
- 13 Other (specify): _____

Eyewitness Questionnaire

INSTRUCTIONS: Please circle only one answer.

BACKGROUND INFORMATION.

a. What is your present profession or occupation:

Crown counsel 1

Defence counsel 2

Psychologist 3

area of specialization: _____

Police officer 4

Student 5 (if 5 go to c.)

Other (specify): _____

b. If not a student, how many years experience do you have in your present profession?
_____ yrs.

c. Your age group:

1. 16-20 2. 21-30 3. 31-45 4. 46-60 5. 61+

d. Your sex:

1 Male 2 Female

e. Have you ever served as an eyewitness in a legal case?

1 Yes 2 No (if no, go to f.)

If YES, briefly explain when and why: _____

f. Have you ever been a juror?

1 Yes

2 No (go to g.)

If YES, were you asked to consider the testimony of an eyewitness?

1 Yes

When? (most recent date) Month _____ Yr: _____

2 No

2. Suppose that a man and a woman both witness two crimes. One crime involves violence while the other is non-violent. Which statement do you believe is more true?

1. Both the man and the woman will remember the details of the violent crime better than the details of the non-violent crime.
2. Both the man and the woman will remember the details of the non-violent crime better than the details of the violent crime.
3. The man will remember the details of the violent crime better than the details of the non-violent crime and the reverse will be true for the woman.
4. The woman will remember the details of the violent crime better, and the man will remember the details of the non-violent crime better.
5. Don't know.
6. Other: _____

2b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

3. Consider a situation in which a person is being robbed. The robber is standing fairly close to the victim and is pointing a gun at him/her. The victim later reports to a police officer, "I was so frightened, I'll never forget that face." Which of the following do you feel best describes what the victim experienced at the time of the robbery?

1. The victim was so concerned about being able to identify the robber that he/she didn't even notice the gun.
2. The victim focused on the robber's face and only slightly noticed the gun.
3. The victim got a good look at both the gun and the face.
4. The victim focused on the gun which would interfere with his/her ability to remember the robber's face.
5. Don't know.
6. Other: _____

3b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

4. Suppose a person witnesses a serious car accident and he/she is later asked one of the following questions about it, either: (1) "Did you see A broken headlight?" OR (2) "Did you see THE broken headlight?" Would it make any difference which question the witness was asked?

1. No, since the witness would know whether or not they had seen a broken headlight.
2. No, since there is no important difference between the two questions.
3. Yes, even a slight difference in question wording such as that here might affect the witness' accuracy in responding.
4. No, slight differences in question wording would have no important influence on the witness' accuracy when responding.
5. Don't know.
6. Other: _____

4b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

5. Suppose that a very serious mugging incident occurred in front of ten witnesses. The witnesses were generally upset but thought they saw the mugger had been wearing a green and gold baseball cap. The witnesses later read about the mugging in the local newspaper. The newspaper account mistakenly reported that the mugger had been wearing a blue and white cap. How many of the witnesses do you think would still believe they had seen a green and gold cap rather than a blue and white one?

1. None.
2. Less than half.
3. About half.
4. More than half.
5. Don't know.
6. Other: _____

5b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

6. Suppose an armed robbery took place in a grocery store. The entire incident lasted four minutes. If ten people saw the robbery and were asked how long it had taken:

1. In general, they would overestimate the duration of the crime.
2. In general, most would underestimate the duration of the crime.
3. Overall, the estimates would be very close to 4 minutes.
4. Don't know.
5. Other: _____

6b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

7. Two female students are walking to school one morning, one of them a Canadian Chinese and the other a white woman. Suddenly, two men, one Chinese and the other white, jump into their path and attempt to grab their purses. Later, the women are shown photographs of known purse snatchers in the area. Which statement best describes your view of the women's ability to identify the purse snatchers?

1. Both women will find the white man harder to identify than the Chinese man.
2. The white woman will find the Chinese man more difficult to identify than the white man.
3. The Chinese woman will have an easier time than the white woman making an accurate identification of both men.
4. The white woman will have no difficulty in identifying either the white man or Chinese person.
5. Don't know.
6. Other: _____

7b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

8. Two white men, one of whom is an experienced police officer, are walking together in front of a large store window. Through this window they see two men, one black and one white, robbing the store owner. The two robbers escape and the two witnesses are shown a number of mugshots of known thieves. Which statement best describes your view of the two men's abilities to identify the robbers?

1. The police officer will be superior to the civilian in identifying both robbers.
2. The civilian will be superior to the police officer in identifying both robbers.
3. The police officer and the civilian will be equally accurate in identifying the robbers.
4. The police officer will be superior in identifying the black robber, but both will be equally accurate in identifying the white robber.
5. Don't know.
6. Other: _____

8b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

9. Two eyewitnesses give conflicting evidence about the identification of a suspect, seen earlier for a few seconds. One of the eyewitnesses is an experienced police officer and the other is a long time store clerk. Which statement best reflects your view about the witnesses' testimony?

1. The police officer's evidence is more likely to be accurate.
2. The clerk's evidence is more likely to be accurate.
3. It is likely that both the police officer and the clerk will be equally accurate.
4. Since the evidence conflicts, neither person is likely to be accurate.
5. Don't know.
6. Other: _____

9b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

10. Which of the following statements do you feel best represents the truth about an eyewitness's memory for faces seen only once?

1. Even after several months, memory is still 90%-95% accurate.
2. Physically attractive and unattractive faces are remembered no better over the long term than are faces of average attractiveness.
3. After a period of about 2 weeks, a face seen only once before becomes indistinguishable from faces never seen before.
4. It takes about 6-12 months before a face seen only once before becomes indistinguishable from faces never before seen.
5. Don't know.
6. Other: _____

10b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

11. A corner store robbery is committed. Later, the clerk who was robbed at gunpoint identifies someone from a set of photographs as the person who committed the crime. Still later, the clerk is asked whether the robber is present in a lineup of several somewhat similar individuals. Which of the following statements is most likely to be true?

1. Guilty or not, if the person identified in the photos is present, he/she is likely to be identified from the lineup as well.
2. Having seen the photos, the witness (victim) is not likely to choose someone from the lineup if the robber is not present.
3. If the robber is present in the lineup, having seen his/her photo previously would not alter the chances of the victim identifying him/her from the lineup.
4. The effect of viewing the photos on accuracy of identification later at the lineup, is not affected by how good a look the witness got of the robber.
5. Don't know.
6. Other: _____

11b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

12. There are two eyewitnesses to a violent crime which was committed under poor lighting conditions. When giving evidence, some time later, one witness is very confident about his/her ability to identify the criminal in a line-up. The other witness is not very confident about his/her ability to identify the criminal. Which of the following statements best reflects your belief in their testimonies?

1. The confident person is more likely to be accurate than the less confident person.
2. The less confident person is more likely to be accurate than the more confident person.
3. Both persons are likely to be equally as accurate as each other.
4. If the less confident person's testimony does not agree essentially with the more confident person's, then the less positive person's testimony will be accurate.
5. Don't know.
6. Other: _____

12b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

13. If an elderly eyewitness is providing testimony about a crime he/she witnessed, which statement best reflects your view of his/her ability to describe the events?

1. It is unlikely that the elderly person will be as accurate in describing what occurred as a younger person would be.
2. The elderly person is likely to be just as accurate in describing the events as a younger person would be.
3. Immediately after the crime the elderly person will be just as accurate as a younger person in describing details of the events.
4. Provided that some time has elapsed after the crime, the elderly person will be able to describe the details of the events that took place as accurately as a younger person.
5. Don't know.
6. Other: _____

13b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

14. Suppose that two women, of normal health, witness a crime. One is elderly (about 70 years) and the other is a young (about 20 years) woman. Which statement best represents the witnesses' ability to recognize the criminal?

1. The younger woman will be better able to recognize the criminal than the elderly woman.
2. Both women are likely to be equally good at recognizing the criminal.
3. The elderly woman is likely to be better at recognizing the criminal than the younger woman.
4. Women are generally poor at face recognition and so neither is likely to recognize the criminal.
5. Don't know.
6. Other: _____

14b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

15. An elderly eyewitness to a crime is unable to describe the criminal to the police when they arrive on the scene shortly after the event. However, when looking through the police files later that day he/she recognizes and identifies a photograph as being the criminal's. Which statement best reflects your view of his/her identification?

1. He/she is unlikely to be accurate as the elderly person will likely be confused.
2. He/she is unlikely to be accurate as they could not describe the person shortly after the event.
3. He/she is equally likely to be accurate as inaccurate.
4. He/she is reasonably likely to be accurate because recognizing someone is different from being able to describe them.
5. Don't know.
6. Other: _____

15b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

16. If a young child (about 8 years) is questioned by the police or in court, which statement best reflects your view of the type of replies the child might give?

1. The child is likely to reply accurately.
2. The child is likely to reply the way he/she thinks the questioner wants them too.
3. The child is unlikely to reply to the questions.
4. The child is likely to reply "I don't know" to the questions.
5. Don't know.
6. Other: _____

16b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

17. A male witness overhears a robbery being committed by a male robber in the next room. Although he could not see the robber, it is likely that the robber can be positively identified by voice if:

1. The voice identification test is given within minutes of first hearing the robber's voice rather than 24 hours later.
2. The robber speaks in a normal tone of voice during the identification test regardless of the tone of voice used during the robbery.
3. The robber speaks in the same tone of voice during the identification, as he spoke during the robbery.
4. The voice identification test was given within a month of the robbery taking place.
5. Don't know.
6. Other: _____

17b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

18. Suppose a customer witnessed a bank robbery during regular working hours. If the person were shortly thereafter to go through a collection of photographs of criminals, which of the following responses do you feel would most accurately reflect the outcome?

1. The chances of recognizing the robber, even if he/she were in the list of photos, would be unlikely.
2. The chances of recognizing the robber if the pictures were in color would be greater than if the pictures were in black and white.
3. The chances of recognizing the robber if the mugshots were in black and white would be greater than if the pictures were in color.
4. The chances of recognizing the robber would be the same regardless of the type of picture.
5. Don't know.
6. Other: _____

18b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

19. Suppose that in an effort to help bank tellers to be better eyewitnesses a group of tellers were trained to notice specific facial characteristics such as the nose, mouth, ears, hair style, and any distinguishing features while another group of tellers were trained to focus on the perceived personality characteristics (e.g., sly, authoritarian, intelligent, etc.) of a face to assist in recognition. If both groups were presented a short bank robbery video and then asked to recognize the face of the robber from a photo spread which statement do you feel would be true?

1. Both groups would be equally able to recognize the robber's face.
2. The tellers trained to recognize specific facial features would do better at recognizing the robber than the group trained to focus on personality characteristics.
3. Those tellers trained to focus on personality characteristics would fair better than the group trained to focus on specific features.
4. Training would not make any difference if compared with non-trained tellers.
5. Don't know.
6. Other: _____

19b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

20. Two people with similar backgrounds are separately trained to improve their ability in face recognition. One is trained to remember specific facial features (e.g., nose, mouth, eyes, scars, etc.) of the face while the other person is trained to verbalize what they saw. Which statement do you feel is most likely to be true?

1. Both individuals would perform equally well in a recognition task since both were trained. The type of training does not really matter.
2. The person trained to verbalize what they saw would be able to provide better information for identification than the visually trained person.
3. The visually trained person would provide better information for identification than the verbally trained person.
4. There is no relationship in recall between verbal training and visual training.
5. Don't know.
6. Other: _____

20b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

21. Suppose that in the same bank robbery above there had been two persons who had witnessed the robbery and were then each presented with a different set of photos. One set of photos had full-face and profile views of the suspect while the other set of photos had full-face (frontal view) and three-quarter (full-face and side view) profiles. Which of the following choices do you feel would most likely be true?

1. The person viewing the full-face and profile set of photos would have a better chance at recognizing the robber than the person viewing the full-face and three-quarter view pictures.
2. The person viewing the full-face and three-quarter set of photos would have a better chance at recognizing the robber than the person viewing the full-face and profile pictures.
3. Regardless of which set of photos, both individuals would have an equal chance at recognizing the robbers face.
4. Don't know.
5. Other: _____

21b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

22. Suppose two young people, with equal ability, had just witnessed a crime. Both were later separately asked by authorities to describe the event. One was asked to freely narrate what they saw while the other person was asked specific questions about the event. Which statement do you feel would best describe the result?

1. The person asked the specific questions would provide better information for identification than the person who was asked to freely describe what they saw.
2. The person asked to freely describe what they saw would provide better information than the person who was asked specific questions.
3. Both individuals would do equally well at recalling the event.
4. Because of the presence of an authority figure neither person would be able to provide very good information.
5. Don't know.
6. Other: _____

22b. How confident did you feel about your answer?
very confident somewhat confident not confident
1 2 3 4 5

23. Do you feel that psychologists experienced in eyewitness research should be regularly allowed to testify in a court of law?

- 1 Yes
- 2 No

Comment: _____

24. When an eyewitness is the only source of evidence available to the court, generally how much faith do you feel the jury should place on such testimony?

- 1. The jury should not place any faith in the testimony, they should request/await further evidence.
- 2. The jury should be trusting of the evidence and have minimal difficulty in making their decision based on the eyewitness's testimony.
- 3. The jury should be skeptical.
- 4. Don't know.
- 5. Other: _____

25. Do you feel that a judge should be responsible for cautioning the jury about any possible limitations of an eyewitness's testimony.

- 1 Yes
- 2 No

Comment: _____

Thank you for your participation. Please remember to return this as soon as possible in the envelope provided. If you are interested in receiving the final results you can include your address on a card, or if anonymity is preferred in your response to this questionnaire send your address separately. The results will be made available as soon as possible.

Dear John:

I have completed and returned your eyewitness questionnaire. When the results become available I would be interested in receiving a copy of your findings.

Name: _____

Address: _____

APPENDIX B: TRIAL SCENARIOS

Introduction

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

Note: Remember that all your responses are completely anonymous and cannot be identified in any way.

No instructions: Facts A

At around 10 P.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About two hours later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$123.
- . Traces of ammonia, used to clean the floor of the grocery

store, were also found in the defendant's room.

- Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.
- An elderly store clerk, Ms. Wong, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police line-up.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

No more witnesses were called. This marked the end of the trial evidence, court was adjourned, and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident						Not Confident
1	2	3	4	5		

3. Which of the following factors did you consider important in your decision:

	Important						Not Important
a. time between crime and arrest	1	2	3	4	5		
b. amount of money found in room	1	2	3	4	5		
c. ammonia trace	1	2	3	4	5		
d. paraffin test results	1	2	3	4	5		
e. Ms. Wong's identification	1	2	3	4	5		
f. defendant's testimony	1	2	3	4	5		
g. other (please specify)							

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

Note: All your responses are completely anonymous and cannot be identified in any way.

Judge's minimal postwarning: Facts A

At around 10 P.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About two hours later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$123.
- . Traces of ammonia, used to clean the floor of the grocery

store, were also found in the defendant's room.

Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

An elderly store clerk, Ms. Wong, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police line-up.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

No more witnesses were called. This marked the end of the trial evidence and the judge instructed the jury on the laws pertaining to the case and summarized the evidence. His closing remarks included the following:

"You the jury are the sole judges of the credibility of the witnesses and of what weight is to be given the testimony. In considering the testimony of any witness, you should take into account the opportunity and ability of the witness to observe, the witness's memory and manner while

testifying, any interest, bias or prejudice the witness may have, the reasonableness of the testimony of the witness, considered in light of all the evidence, and any other factors that bear on believability and weight."

The judge also reminded the jury to consider carefully whether well-meaning and honest witnesses might be mistaken about the evidence they give. The judge noted that there had been incidents in the past where truly sincere witnesses had made errors.

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Judge's informal postwarning: Facts A

At around 10 P.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

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Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

An elderly store clerk, Ms. Wong, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police line-up.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

No more witnesses were called. This marked the end of the trial evidence and the judge instructed the jury on the laws pertaining to the case and summarized the evidence. His closing remarks included the following:

"You the jury are the sole judges of the credibility of the witnesses and of what weight is to be given the testimony. It is your duty to determine the facts in this case from the evidence produced in court, and in this trial, the evidence of an eyewitness is part of your considerations.

Since you will be required to make a decision of guilt or innocence partly on the basis of such evidence, I feel I should caution you briefly about the general nature of eyewitness evidence.

The old saying 'seeing is believing' must be regarded as just that -- an old saying and nothing more than that. As jurors evaluating the evidence in court, your critical faculties must be sharp. You must abandon any mistaken assumptions you have about the nature of perception and memory. Be aware of the subjective nature of perception and that it is indeed fallible. Perhaps you have experienced first-hand your own perceptions playing trick on you. After watching a close finish between two runners, for instance, you may have been astonished to discover that the photo finish showed the winner to be different than the one you saw. And surely you have all had the embarrassing experience of recognizing someone who turned out to be a complete stranger after you had approached them?

The same caution must then be used when judging human memory. Consider the fact that memory fades with time and that events related to this occurred several months ago. Realize that with time comes subsequent reports and additional information which are also stored in one's memory. Confusion may arise when recalling something so that what one had actually seen may be confused with what one has learned from other sources. There is also the possibility that a witness has been discussing the case with others and gradually built up an account of what took place, which the witness may believe to be true, but which is actually the result of rationalizing as to what took place than what the witness actually saw or heard.

Keep in mind the circumstances surrounding the observation and the identification may influence profoundly the accuracy of a witness's account. Do you believe the defendant was identified in a truly objective manner; a fair manner? Keep in mind the influence of non-verbal communication, individual stereotypes, biases, and motivations, as well as the exceptions placed on the witness to make an identification.

If you adhere to these remarks, I firmly believe your evaluation of the evidence will be based on informed judgement."

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident

Not Confident

1 2 3 4 5

3. Which of the following factors did you consider important in your decision:

	Important			Not Important	
-time between crime and arrest	1	2	3	4	5
-amount of money found in room	1	2	3	4	5
-ammonia trace	1	2	3	4	5
-paraffin test results	1	2	3	4	5
-Ms. Wong's identification	1	2	3	4	5
-defendants' testimony	1	2	3	4	5
-other (please specify)					

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Judge's informal forewarning: Facts A

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

Note: All your responses are completely anonymous and cannot be identified in any way.

At around 10 P.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About two hours later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecution announced its intention to call an eyewitness to testify as to the identity of the individual responsible for the robbery and murder. Before any evidence was presented to the court, the judge addressed the jury with the following words:

"You the jury are the sole judges of the credibility of the witnesses and of what weight is to be given the testimony of each. In considering the testimony of any witness, you should take into account the opportunity and ability of the witness to observe, the witness's memory and manner while testifying, any interest bias or prejudice the witness may have, the reasonableness of the testimony of the witness, considered in light of all the evidence, and any other factors that bear

on believability and weight."

The judge also reminded the jury to consider carefully whether well-meaning and honest witnesses might be mistaken about the evidence they give. He noted that there had been incidents in the past where truly sincere witnesses had made errors.

The judge then indicated to the prosecutor that the case against the defendant could be presented to the court. The prosecution presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$123.
- . Traces of ammonia, used to clean the floor of the grocery store, were also found in the defendant's room.
- . Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.
- . An elderly store clerk, Ms. Wong, who had been at the back of the store at the time of the robbery, and had witnessed

the crime, identified Mr. Green the day after the robbery in a police line-up.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

The court was adjourned and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident

Not Confident

1 2 3 4 5

3. Which of the following factors did you consider important

in your decision:

	Important			Not Important	
a. time between crime and arrest	1	2	3	4	5
b. amount of money found in room	1	2	3	4	5
c. ammonia trace	1	2	3	4	5
d. paraffin test results	1	2	3	4	5
e. Ms. Wong's identification	1	2	3	4	5
f. defendant's testimony	1	2	3	4	5
g. other (please specify)					

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Expert's testimony: Facts A

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At around 10 P.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About two hours later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$123.
- . Traces of ammonia, used to clean the floor of the grocery store, were also found in the defendant's room.
- . Paraffin tests were conducted. Such tests indicate whether

an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

An elderly store clerk, Ms. Wong, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police line-up.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

In addition an expert on eyewitness research, Dr. Robert Anderson, was brought in to comment on people's perceptual and recall ability. By referring to the literature, Dr. Anderson noted that numerous factors can interfere with one's perceptual and recall processes. The doctor noted that cross-racial identification is not as reliable as same race identification; that stress can interfere with one's perceptual abilities -- for example, the sight of a weapon can be stressful enough to detract a witness' attention from other factors; the duration of

an event can be important --- the shorter the time the less reliable a person's recall or recognition ability; older people tend to be less accurate than younger people; that there is mixed evidence about sex differences and recall/recognition ability; the wording of questions by investigators can be suggestive, prompting incorrect responses; line-ups can also be biased and have been shown to lead to incorrect identifications; and a delay between witnessing an event and recall can interfere with the accuracy of one's memory.

In conclusion the doctor noted that there are good witnesses and there are bad witnesses and that while research has found certain factors are important they are generalizable to all witnesses. And finally, Dr. Anderson noted that people should not necessarily rely on their intuitive judgement alone because recent research has challenged the reliability of such processes. It is important to be aware of the "facts" and consider them when reaching a verdict.

After the doctor's testimony, no more witnesses were called. This marked the end of the trial evidence, court was adjourned, and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident			Not Confident		
1	2	3	4	5	

3. Which of the following factors did you consider important in your decision:

	Important			Not Important	
a. time between crime and arrest	1	2	3	4	5
b. amount of money found in room	1	2	3	4	5
c. ammonia trace	1	2	3	4	5
d. paraffin test results	1	2	3	4	5
e. Ms. Wong's identification	1	2	3	4	5
f. defendant's testimony	1	2	3	4	5
g. other (please specify)					

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Instructions

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

Note: Remember that all your responses are completely anonymous and cannot be identified in any way.

No instructions: Facts B

At around 10 A.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About half an hour later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$203 in the defendant's room.
- . Traces of ammonia, used to clean the floor of the grocery

store, were also found in the defendant's room.

Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

A young store clerk, Ms. Goldstein, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police photo-spread.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life, let alone owned one. He admitted he had been out during the day but not to rob the store.

No more witnesses were called. This marked the end of the trial evidence, court was adjourned, and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident			Not Confident		
1	2	3	4	5	

3. Which of the following factors did you consider important in your decision:

	Important			Not Important		
	1	2	3	4	5	
a. time between crime and arrest						
b. amount of money found in room	1	2	3	4	5	
c. ammonia trace	1	2	3	4	5	
d. paraffin test results	1	2	3	4	5	
e. Witness's identification	1	2	3	4	5	
f. defendant's testimony	1	2	3	4	5	
g. other (please specify)						

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Instructions

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

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Judge's minimal postwarning: Facts B

At around 10 A.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About half an hour later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- . The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$203 in the defendant's room.
- . Traces of ammonia, used to clean the floor of the grocery

store, were also found in the defendant's room.

. Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

. A young store clerk, Ms. Goldstein, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police photo-spread.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life, let alone owned one. He admitted he had been out during the day but not to rob the store.

No more witnesses were called. This marked the end of the trial evidence and the judge instructed the jury on the laws pertaining to the case and summarized the evidence. His closing remarks included the following:

"You the jury are the sole judges of the credibility of the witnesses and of what weight is to be given the testimony. In considering the testimony of any witness, you should take into account the opportunity and ability of the witness to observe, the witness's memory and manner while

testifying, any interest, bias or prejudice the witness may have, the reasonableness of the testimony of the witness, considered in light of all the evidence, and any other factors that bear on believability and weight."

The judge also reminded the jury to consider carefully whether well-meaning and honest witnesses might be mistaken about the evidence they give. The judge noted that there had been incidents in the past where truly sincere witnesses had made errors.

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1. Not guilty
2. Guilty
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2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

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guilt or innocence partly on the basis of such evidence, I feel I should caution you briefly about the general nature of eyewitness evidence.

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If you adhere to these remarks, I firmly believe your evaluation of the evidence will be based on informed judgement."

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
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2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident					Not Confident				
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The judge then indicated to the prosecutor that the case against the defendant could be presented to the court. The prosecution presented the following evidence:

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- . Paraffin tests were conducted. Such tests indicate whether an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a slight possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.
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Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different plate since he worked as a delivery man, and that he had never fired a gun in his life. He admitted he had been out during the day but not to rob the store.

The court was adjourned and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident						Not Confident
	1	2	3	4	5	

3. Which of the following factors did you consider important in your decision:

	Important				Not Important
a. time between crime and arrest	1	2	3	4	5
b. amount of money found in room	1	2	3	4	5
c. ammonia trace	1	2	3	4	5
d. paraffin test results	1	2	3	4	5
e. Witness's identification	1	2	3	4	5
f. defendant's testimony	1	2	3	4	5
g. other (please specify)					

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

Expert's testimony: Facts B

Place yourself in the position of a juror. Imagine that you are a juror sitting in court on jury duty. You are about to hear a case of a man charged with robbery and first degree murder. The case has been summarized below, giving you the major pieces of evidence. Please take your time and read it carefully. You will be asked to reach a verdict of guilty or not guilty at the end. Thank you.

Note: All your responses are completely anonymous and cannot be identified in any way.

At around 10 A.M. on May 12, 1984, Mr. Larry Chan, the owner of a small corner grocery store, was confronted by a man who demanded money from the cash register. Mr. Chan immediately opened the till and handed the robber about \$100 (the store had a policy to not keep more than \$100 in the register during the evenings). The robber took the money and started walking for the door. Then suddenly, and for no apparent reason, the robber turned and shot Mr. Chan and his seven year old grand-daughter who had been standing behind the counter with her grandfather. Both victims died instantly.

About half an hour later, several blocks from the store, the police arrested a 24-year old suspect by the name of George Green. Mr. Green was charged with the robbery and murder of Mr. Chan and his grand-daughter.

Six months after the crime, on Nov. 12, 1984, the case came to trial. The prosecutor presented the following evidence:

- . The robber was seen running out of the store by a clerk who had been in the back of the store.
- .. The suspect was also seen running into an apartment building by several local residents, the same building in which the defendant lived.
- . When the police searched Mr. Green's premises, they found \$203 in the defendant's room.
- . Traces of ammonia, used to clean the floor of the grocery store, were also found in the defendant's room.
- . Paraffin tests were conducted. Such tests indicate whether

an individual had gun powder particles on his hands due to the firing of a gun. The results of the paraffin tests indicated that there was a possibility that the defendant had fired a gun that day. The gun used in the robbery, however, was not recovered.

A young store clerk, Ms. Goldstein, who had been at the back of the store at the time of the robbery, and had witnessed the crime, identified Mr. Green the day after the robbery in a police photo-spread.

The counsel for the defense then presented the following evidence to the court as proof the defendant was innocent of the charges:

Mr. Green took the stand and claimed that he had not committed the crime, that the money found in his room represented his savings for a two-month period, that the ammonia tracings could have been obtained from a different place since he worked as a delivery man, and that he had never fired a gun in his life, let alone owned one. He admitted he had been out during the day but not to rob the store.

In addition an expert on eyewitness research, Dr. Robert Anderson, was brought in to comment on people's perceptual and recall ability. By referring to the literature, Dr. Anderson noted that numerous factors can interfere with one's perceptual and recall processes. The doctor noted that cross racial identification is not as reliable as same race identification; that stress can interfere with one's perceptual abilities -- for example, the sight of a weapon can be stressful enough to detract a witness' attention from other factors; the duration of

an event can be important -- the shorter the time the less reliable a person's recall or recognition ability; older people tend to be less accurate than younger people; that there is mixed evidence about sex differences and recall/recognition ability; the wording of questions by investigators can be suggestive, prompting incorrect responses; line-ups can also be biased and have been shown to lead to incorrect identifications; and a delay between witnessing an event and recall can interfere with the accuracy of one's memory.

In conclusion the doctor noted that there are good witnesses and there are bad witnesses and that while research has found certain factors are important they are generalizable to all witnesses. And finally, Dr. Anderson noted that people should not necessarily rely on their intuitive judgement alone because recent research has challenged the reliability of such processes. It is important to be aware of the "facts" and consider them when reaching a verdict.

After the doctor's testimony, no more witnesses were called. This marked the end of the trial evidence, court was adjourned, and the jury retired from the courtroom to reach a verdict.

1. On the basis of the above evidence would you find the defendant, Mr. Green, not guilty or guilty of first degree murder?

1. Not guilty
2. Guilty
3. Insufficient evidence

2. How certain are you that your verdict is correct? On a scale below indicate how confident you are about your decision. (1 indicates you are very confident and 5 indicates you are not at all confident about your verdict).

Confident			Not Confident		
1	2	3	4	5	

3. Which of the following factors did you consider important in your decision:

	Important			Not Important	
a. time between crime and arrest	1	2	3	4	5
b. amount of money found in room	1	2	3	4	5
c. ammonia trace	1	2	3	4	5
d. paraffin test results	1	2	3	4	5
e. Witness's identification	1	2	3	4	5
f. defendant's testimony	1	2	3	4	5
g. other (please specify)					

4. We are interested in learning how you reached your conclusion. For example, what were your impressions of the testimony provided in the case; is there anything specific you would have liked to have known; and, there anything in particular that helped you come to your decision?

APPENDIX C: SAMPLE LETTER TO POLICE DETACHMENTS/

PSYCHOLOGIST/LAWYERS

June 11, 1965.

Superintendent Airie Oosthoek,
"E" Division, R.C.M.P.,
5255 Heather,
Vancouver, B.C.
V5Z 1K6

Dear Superintendent:

For my doctoral thesis in criminology I am undertaking a study relating to the area of eyewitness testimony. Part of the study will require the completion of a questionnaire (see attached) which is designed to examine the perceptions of various "groups" (jurors, psychologists, lawyers, and police officers) toward eyewitness testimony and related issues. This is considered an important area of exploration as much controversy appears to exist around the use and reliability of eyewitness testimony in courts.

In order to complete the study, I would like to request permission to ask 50-70 police officers to complete the questionnaire.

It should be noted that the forms are completely anonymous and the information will not be used in any way that might draw any negative rhetoric about or toward the police. The questionnaire is simply intended to examine perceptions about an important issue and there are no "right" or "wrong" responses.

As the study may also be of use to the police (e.g., police training and investigation procedures), the results will be made fully available to the R.C.M.P. You would also be provided with a copy of the study prior to its completion for interest purposes as well as to assure that nothing has been unfairly written or said about the information provided.

continued....2

Your assistance and support in accomplishing this matter would be sincerely appreciated. If you would like any further details please feel free to contact me at 291-4127 or Dr. Margaret Jackson at 291-3515.

Sincerely,

JW/jp

John Winterdyk

P.S. I will be out of town between June 13 and August 20, 1985.

SIMON FRASER UNIVERSITY

CRIMINOLOGY RESEARCH CENTRE



BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-4127

January 16, 1986

Dr.
Dept. of Psychology
University of Alberta
Edmonton, Alberta
T4G 2H4

Dear Dr. :

As you are probably aware, considerable debate exists about the reliability and validity of eyewitness testimonies. As part of my Ph.D. dissertation I am attempting to examine the differences between various "groups" (police, psychologists, potential jurors, judges, and lawyers) with respect to their knowledge about eyewitness issues. Some of the literature in the area suggests that knowledge about a number of eyewitness issues differ between varying professions/groups.

In an effort to collect data from psychologists, I randomly selected seven Canadian universities and then arbitrarily made up a list of faculty members from the respective psychology departments for mailing purposes.

The questionnaire will take approximately 30 minutes to complete. Your participation in completing the questionnaire and returning it in the stamped self-addressed envelope at your earliest convenience would be greatly appreciated.

If you are interested in receiving the results from the study, please complete and include the 'request' form (or mail it separately to ensure anonymity, if you prefer).

I thank you, in advance, for your attention and assistance in helping me to complete this study. I also hope that you will find the exercise interesting and the results informative.

Respectfully,

John Sinterdyk

SIMON FRASER UNIVERSITY

CRIMINOLOGY RESEARCH CENTRE



BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-4127

January 22, 1986

Dear Sir/Madam:

As you are probably aware, considerable debate exists about the reliability and validity of eyewitness testimony. As part of my Ph.D. dissertation I am attempting to examine the differences between various "groups" (police, psychologists, potential jurors, judges, and lawyers) with respect to their knowledge about eyewitness issues. Some of the literature in the area suggests that knowledge about a number of eyewitness issues differs among varying professions/groups.

This questionnaire will take approximately 30 minutes to complete and can be returned in the stamped self-addressed envelope.

If you are interested in receiving the results from the study, please complete and include the 'request' form (or mail it separately to ensure anonymity, if you prefer).

I thank you, in advance, for your attention and assistance in helping me to complete this study. I also hope that you will find the exercise interesting and the results informative.

Respectfully,

John Winterdyk,
School of Criminology

SIMON FRASER UNIVERSITY

CRIMINOLOGY RESEARCH CENTRE



BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-4127

Mr. Bruce Johnstone
Regional Crown Counsel
Court House
222 Main St.
Vancouver, B.C.

January 22, 1986

Dear Sir:

Re: Eyewitness Questionnaire distribution among
your Crown staff.

Further to our discussion January 21, please find attached 15 questionnaires accompanied with a covering letter and a 'request for results' form in each of the self-addressed envelopes.

As Deanna Buckley may have informed you, the questionnaire is part of my Ph.D. dissertation in Criminology. One of the areas I am attempting to examine is whether differences exist among various "groups" (lawyers, psychologists, police, officers, potential jurors, and judges) with respect to their knowledge about eyewitness issues. Some of the literature in the area suggests that knowledge about a number of eyewitness issues does differ among varying professions/groups. The implications could have some bearing on how eyewitness evidence should be treated by the Courts and police in the future. This study represents one of the first of its kind in Canada and to date, is the most comprehensive.

Your assistance in distributing the questionnaires and perhaps encouraging your staff to complete and return them would be very much appreciated.

As the data has been nearly all collected, I hope to make the results available within a relatively short period of time.

Respectfully,

John Winterdyk
School of Criminology

APPENDIX D: FOLLOW-UP LETTER TO RESPONDENTS IN EXP. 1

SIMON FRASER UNIVERSITY

FACULTY OF ARTS
SCHOOL OF CRIMINOLOGY



BURNABY, BRITISH COLUMBIA
CANADA V5A 1S6
Telephone: (604) 291-1211

Re: Eyewitness Questionnaire (mailed Jan.15.86)

It is normal practice in mail-out surveys to send a follow-up letter to those who may have forgotten to send back their questionnaire. Since the return envelopes and questionnaires ensured anonymity, it is not certain whether you have returned your questionnaire. If you have NOT yet returned it, it would be appreciated if you could do so as soon as possible. If you have, thank you for your co-operation and assistance.

Sincerely,

John Winterdyk

APPENDIX E: JURY ACT

A

5

JURY ACT

CHAPTER 210

Part	Section
1. Jurors	2 - 7
2. Juries for Criminal Trials	8 - 12
3. Juries for Civil Trials	13 - 21
4. General	22 - 32

Interpretation

1. In this Act

"court" means the Supreme Court or the County Court;

"sheriff" means any person lawfully holding the office of sheriff or lawfully performing the duties of sheriff by way of delegation, substitution, temporary appointment or otherwise;

"sittings" or "sitting" means a sitting of the court for the trial of civil or criminal cases and includes the hearing of a single trial;

"year" means the 12 months commencing on the first day of January

1970 15 2, 1977 38 2

PART 1

Jury duty

2. A person has the right and duty to serve as a juror unless disqualified or exempted under this Act.

1977 38 1

Disqualification

3. (1) A person is disqualified from serving as a juror who is
- (a) not a Canadian citizen;
 - (b) not resident in the Province;
 - (c) under the age of majority;
 - (d) a member or officer of the Parliament of Canada or of the Privy Council of Canada;
 - (e) a member or officer of the Legislature or of the Executive Council;
 - (f) a judge, justice or court referee;
 - (g) an employee of the Department of Justice or of the Solicitor General of Canada;
 - (h) an employee of the Ministry of the Attorney General of the Province;
 - (i) a barrister or solicitor;
 - (j) a court official;
 - (k) a sheriff or sheriff's officer;
 - (l) a peace officer;
 - (m) a warden, correctional officer or person employed in a penitentiary, prison or correctional institution;
 - (n) blind, deaf or has a mental or physical infirmity incompatible with the discharge of the duties of a juror.

(o) a person convicted within the previous 5 years of an offence for which the punishment could be a fine of more than \$2,000 or imprisonment for one year or more, unless he has been pardoned; or

(p) under a charge for an offence for which the punishment could be a fine of more than \$2,000 or imprisonment for one year or more.

(2) An officer or person regularly employed in the collection, management or accounting of revenue under the *Revenue Act*, or a person registered under the *Chiropractors Act*, *Dentists Act* or *Naturopaths Act* is exempt, if he so desires, from serving on a jury.

RS1960-54-16; RS1960-99-64; RS1960-264-19; RS1960-341-15; 1977-38-3.

Disqualification because of language difficulty

4. Where the language in which a trial is to be conducted is one that a person is unable to understand, speak or read, he is disqualified from serving as a juror in the trial.

1977-38-3.

Grounds for exemption

5. (1) A person may apply to the sheriff to be exempted from serving as a juror on the grounds that

(a) he belongs to a religion or a religious order that makes service as a juror incompatible with the beliefs or practices of the religion or order; or

(b) serving as a juror may cause serious hardship or loss to him or to others.

(2) On an application for exemption the sheriff may, if he is satisfied that the applicant is entitled to the exemption, exempt the applicant from serving on the jury for which he is summoned or, if the sheriff is not so satisfied, he may refuse the exemption.

(3) Where the sheriff refuses an application for exemption made under this section, the applicant may apply informally and without prior notice or proceedings to the court for exemption on the grounds on which he made the application to the sheriff and the court may exempt or refuse to exempt the applicant from serving on the jury for which he is summoned.

1977-38-3.

Exemption for person 65 years of age or over

6. A person over the age of 65 years, on application to the sheriff, shall be exempted from serving as a juror.

1977-38-3.

Selection procedure

7. The sheriff, having regard for the principle in section 2, may determine the procedures he considers appropriate for the selection of jurors.

1977-38-3.

PART 2

Jurisdiction of sheriff

8. A sheriff whose jurisdiction extends over a portion only of a county has, for this Act, jurisdiction over the whole county.

1970-15-8.

Selection of jurors

9. (1) Where the Lieutenant Governor in Council has, by order, fixed times and places for sittings for the hearing of criminal trials with a jury, the sheriff, on receipt of a certified copy of the order shall, not less than 15 days before the commencement of the sitting referred to in the order, empanel a sufficient number of jurors for the cases that may be heard during the sitting.

(2) Notwithstanding subsection (1), a single jury panel of sufficient numbers may be established to serve a single sitting of a court or 2 or more simultaneous sittings of that court and, in addition, may serve sittings in both the Supreme Court and County Court that are occurring simultaneously.

(3) A jury selected for a trial shall, for the duration of that trial, be subject to the direction of the presiding judge.

(4) In addition to the sittings referred to in subsection (1), a judge may fix a date for a criminal trial to be heard before a court composed of a judge and jury and the sheriff shall, on the request of the registrar, empanel a sufficient number of jurors.

1970-15-9; 1977-38-4.

Summoning of jurors

10. (1) The sheriff, at least 15 days before the day on which the juror is required to attend, shall summon the juror by delivering to him, or, in case of his absence from his usual residence or place of business, by leaving for him with some person there residing or employed who appears to be at least of the age of 16 years, or, in any case, by mailing by registered mail addressed to the last known address of the juror a notice in writing signed by the sheriff containing the particulars of the time and date of the sitting at which the juror is required to attend.

(2) Where it appears that a person empanelled to serve on the jury is dead or has moved out of the county or is disqualified, the sheriff may add an additional name to the panel.

(3) Where it appears that a person empanelled to serve on a jury is absent or cannot be served within the time set out in subsection (1), the sheriff may, at any time prior to the sittings, empanel an additional person and serve him in the manner provided in subsection (1).

(4) At any time before or during a sitting the sheriff may, if he considers it necessary, apply to the court for an order directing the sheriff or any other officer of the court to return an additional number of jurors on giving notice that the court directs.

1970-15-10; 1971-28-3,4,5; 1977-38-5.

Procedure at sitting

11. (1) The sheriff may report to the court the names of jurors served who fail to attend.

(2) Where an insufficient number of persons empanelled are in attendance at the sittings, the sheriff may summon the number of persons, whether qualified or not, necessary to complete the number of persons required.

(3) The sheriff may at any time, in writing or otherwise, summon a person under subsection (2).

1970-15-12; 1977-38-7.

Juror exempted from jury service for 2 years

12. No person shall be required to serve on a jury for 2 years next after his having served as a juror on a trial.

1970-15-13, 1977-38-8.

PART 3**Nothing to affect right of trial by jury**

13. Nothing in this Act takes away or prejudices any right of a party to an action to have the action tried by a judge of the court and a jury, provided that the fees for a jury are paid in accordance with this Act.

1970-15-14; 1971-28-6.

Jury for civil trial or by order

14. Where a jury is required in a civil trial, the jury shall be summoned as provided in this Part.

1970-15-15.

Payments to be made by party requiring jury

15. The party requiring a jury shall, before he is entitled to have the jury summoned, pay to the sheriff a sum sufficient for payment of the jury and jury process, together with any additional fees prescribed by this Act or the Rules of Court for expenses of a jury and attendance of the sheriff or sheriff's officers; and before the opening of court on each day of the trial, after the first day, the party shall pay to the sheriff the further sum sufficient for payment of the jury fee and the additional fees referred to above for payment of the jury and the sums shall be considered as costs in the cause, unless otherwise ordered by the jury.

1970-15-16; 1977-38-9.

Qualification and summoning of jurors

16. (1) The party requiring a jury shall leave, at the office of the sheriff, not less than 30 days' notice of the day, time and place fixed for the trial and the sheriff shall empanel a sufficient number of jurors as are needed to be summoned to attend the court at a day, time and place fixed for the trial and the court shall administer, to those of them empanelled to try any cause, an oath to give a true verdict according to the evidence.

(2) The sheriff, at least 15 days before the day on which the juror is required to attend, shall summon the juror by delivering to him, or, in case of his absence from his usual residence or place of business, by leaving for him with some person there residing or employed who appears to be at least of the age of 16 years, or, in any case, by mailing by registered mail addressed to the last known address of the juror, a notice in writing signed by the sheriff containing the particulars of the time and date of the trial at which the juror is required to attend.

(3) Where the sheriff is unable to summon all of the jurors selected for service or where any of the persons summoned fail to attend at the time and place for which they are summoned, the sheriff shall report the fact to the judge who may order the sheriff or other proper official to summon the number of persons, whether qualified jurors or not,

necessary to make the number of persons required to serve on the jury; and those persons may, if necessary, be summoned by word of mouth or in writing at any time.

1970-15-17; 1971-28-7; 1977-38-10

Payment of jury fees in civil cases

17. (1) The fees to jurors in civil cases shall be paid out of the sums deposited with the sheriff for jury fees by the party requesting the jury.

(2) If there is a deficiency, the sheriff shall notify the presiding judge of the court who may make an order he considers just.

1970-15-18

Number of jurymen and challenges

18. Eight jurymen shall be sworn to give their verdict in the proceeding which is brought before them in the court and each of the parties is entitled to challenge for cause any of the jurors, and each party, the plaintiff or plaintiffs on one side, and the defendant or defendants on the other, is entitled to challenge peremptorily not more than 4 jurors.

1970-15-19; 1972-30-1

Verdict of 75% of jurors may be received

19. (1) On a trial, if a jury does not reach a unanimous verdict within a period of 3 hours from the time it retired to consider its verdict, the judge of the court may receive the verdict of 75% of those jurors.

(2) A verdict under subsection (1) is as binding in all respects and has the same force and effect as if it had been the unanimous verdict of the full jury, but nothing in this section applies to any prosecution, suit or other proceeding in respect of any offence or for the recovery of any penalties or forfeitures by or on behalf of the Crown.

1970-15-20; 1976-2-23

Special jury abolished

20. Special juries for the trial of civil matters are abolished and every trial of a civil matter requiring a jury shall be tried by a jury empanelled under this Act.

1970-15-21

Omissions to observe directions not to vitiate verdict

21. No omission to observe the directions contained in this Part respecting the qualifications and selection of jurors is a ground for impeaching the verdict or judgment rendered in any civil cause.

1970-15-22

PART 4

Jurors' fees

22. (1) A person sitting as a juror at a trial is entitled to receive as provided in this section

- (a) necessary and reasonable travelling and lodging expenses; and
- (b) the sum of \$20 a day for other expenses incidental to the discharge of his duties as a juror during each day of absence from his place of residence that the attendance at a sitting or trial actually requires.

(2) Where a juror sits at a trial that is not completed within 10 days, he is entitled to receive the sum of \$30 a day for each day in excess of 10 days.

(3) A person serving on a jury panel but not selected to sit as a juror is entitled to receive

(a) necessary and reasonable travelling and lodging expenses; and

(b) \$10 for each day that he is required to attend at a sitting.

(4) Unless otherwise ordered by the Attorney General, the travelling and lodging expenses referred to in subsections (1) and (3) shall be ascertained and approved by the sheriff who summoned the juror and, when required by the sheriff, by the declaration of the juror himself, and every juror who makes a false declaration respecting his travelling and lodging expenses shall, in addition to any other penalty, forfeit his right to receive any payment under this section.

1970-15-23, 1972-30-2, 1977-38-11.

Sheriff to make pay list for jurors

23. A sheriff shall make a pay list for the jurors summoned to attend a sitting or a trial in the form prescribed by the Attorney General.

1970-15-24.

Registrar to pay jurors

24. The pay list indicating the number of days of attendance of each juror, checked and certified by the sheriff, is sufficient authority to pay each juror the sum to which he is entitled as certified by the list.

1970-15-25.

Roll call of jurors

25. The clerk of the court shall, at the opening of a sitting and on each occasion thereafter that the panel is required by the court to attend and before any other business is proceeded with, call over the names of the jurors so that the sheriff or his officer may ascertain those who are present or absent.

1971-28-8.

Jurors not attending to be fined

26. A juror not appearing when called is not entitled to any fee or expenses for the day or part of the day in which he is absent; and every juror, for each absence of a day or part of a day, is liable to a fine as may be imposed by the court.

1970-15-27.

Discharge or death of juror

27. (1) Where before or during a trial a court considers that a juror should not, because of illness or other reasonable cause, act or continue to act, the court may discharge the juror.

(2) Where during a trial a juror dies or is discharged, the jury is, unless the court otherwise directs and as long as the number of jurors is not less than 6, properly constituted for all purposes of the trial and the trial shall proceed and a verdict may be given.

1976-2-23.

Only authorized fees allowed

28. No juror is entitled to any fee or allowance other than is provided under this Act.

1970-15-29.

Certificate of attendance

29. On application by a juror who has attended and served on a panel, the sheriff shall deliver to the juror a certificate testifying to his attendance and service on the panel.

1970-15-30.

Form of affirmation for certain persons

30. Any person allowed by law to affirm or declare instead of swearing an oath in civil causes who is summoned as a juror in a court shall, instead of being sworn in the usual form, be permitted to make his solemn affirmation or declaration in accordance with the *Evidence Act* and then he may serve as a juror as if he had been sworn, and in any record or proceeding relating to the case it may be stated that the juror was sworn, affirmed or made his declaration.

1970-15-31.

Sheriff indemnified for returning unqualified persons named in list of jurors

31. Every sheriff to whom the return of jurors is by this Act committed is hereby indemnified for empanelling and returning a person as a juror named in or taken from the list of jurors for the year in which he has been summoned, although the person may not have been qualified or liable to serve as a juror for that year.

1970-15-32.

Regulations

32. The Lieutenant Governor in Council may make regulations.

1970-15-33.

[*Note: see also draft uniform Jury Act to be found as stated in the Guide Notes in the beginning of this volume.*]