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## Complex Scientific Testimony: Can Educational Psychology Turn Jurors Into Students and Lawyers Into Teachers?

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Running Head: COMPLEX SCIENTIFIC TESTIMONY AND EDUCATIONAL PSYCHOLOGY

Complex Scientific Testimony: Can Educational Psychology Turn  
Jurors Into Students and Lawyers Into Teachers?

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### Abstract

Jury trials are an integral part of the United States system of justice. However, as of late, the institution of the jury has been attacked on the front that much of the testimony presented to jurors is too complex for them to comprehend. For the proposed study, using the principles of educational psychology theorized by David Ausubel, a mock video of a trial hinging on a “complex scientific concept” will be created and then viewed by mock jurors. We are expecting that, by using Ausubel’s principles, that jurors will, in effect, become “students” in a virtual classroom. Conversely, attorneys and expert witnesses will become “teachers”. These two factors combined will facilitate the process of learning and help jurors by creating more favorable attitudes towards the trial, increasing memory and comprehension of complex material, and the use of scientific testimony in arriving at their verdict.

### Complex Scientific Testimony: Can Educational Psychology Turn

#### Jurors Into Students and Lawyers Into Teachers?

Though trial by jury is not a popular judicial entity in the world as a whole, it is an integral part of the legal system in the United States. History has presented the jury as the final institution of true justice in this country. However, recent discussion has unearthed an often bitter debate over the merit of the jury system and the kinds of decisions it makes (Roper, 1986). Why have juries become such an interesting topic of debate of late? One reason is the sheer excitement of jury trials (Pennington and Hastie, 1990). This is especially true now, in the age of technology, where we as citizens have far more exposure to the day to day functioning of the legal system. Second, experts, and especially psychologists, are being asked more and more to help decide how the proceedings of the court should be conducted and what should be changed to make the process more efficient. Finally, and most important of the three to the present study, it has become clear that testimony given at trial is becoming more and more complex. Both the complexity of scientific ideas and exposure to these ideas are increasing exponentially, leaving the layman to sort out often in-depth scientific concepts. Thus, expert witnesses, who often testify about new scientific advancements, are bringing a level of difficulty to their testimony that jurors may struggle with unless given proper guidance and assistance.

One very recent phenomenon involves suits brought against therapists (e.g., clinical psychologists, social workers, counselors, etc.) by their clients. The allegations usually center on the clients discovery that they were abused as children, and that they are just now recovering their memory of the incident(s). It has been charged by academic researchers and clinical psychologists that these therapists have implanted these “false memories” through their therapeutic techniques. One parent involved in this kind of suit (a cofounder of the “False Memory Syndrome Foundation”) writes that “the number of these suits that are reaching juries is growing -- as are the sizes of the awards. From several awards of more than \$2 million just a year ago to the \$5.9 million award.....” (Freyd, 1997). This statement makes it evident why juries need to be clear about the testimony presented to them to ensure a fair and correct verdict. Overall, these types of lawsuits have ignited a flurry of complex research studies whose aim are to determine the merit of “recovered memory” claims. For juries to hand down verdicts

about these kinds of cases, they must be well-versed in studies on important forensic issues like DNA testing, eyewitness memory, and progressive medical procedures. Oftentimes, these studies and the theories they utilize are not naturally easy for the layperson to understand.

There are two questions that need to be answered with respect to this problem: (1) are jurors truly capable of understanding complex testimony and (2) how can attorneys and expert witnesses help jurors with that comprehension? These two questions have lead the current study to categorize researchers into two opposing factions of researchers. One faction supports the importance of *extra-legal factors*(ELFs) in juries and jury decision-making. ELFs are factors which are extraneous to the validity of the evidence itself. The second faction of researchers feel that it is the evidence itself that should be stressed, not factors which are meaningfully unrelated to the evidence.

The former faction of jury researchers, the supporters of ELFs, look to outside factors, believing that evidential concerns are constant in most trials. In other words, the evidence itself is so straightforward that there is nothing either side could do to make it more effective during trial. Most research on ELFs fall into three main categories (1) juror attributes, (2) source characteristics, and (3) evidence attributes. Juror attributes include race, gender, age, etc.

Concerning race, it has been found that found that both race and ethnicity are related to the decisions of individual jurors in a variety ways. For example, in one study African-American jurors more often favored acquittal (Broeder, 1959) while British and German jurors favored the prosecution more often. This was established for verdicts in a variety of lawsuit types. It has also been noted that there are interactive effects when we consider the race of individuals involved in the case, as well as that of the jurors (Ugwuegbu, 1979). For example, in interracial rape suits, when the plaintiff and the juror were the same race, the defendant (racially different) was given a more harsh prison sentence. Additionally, in liability trials, minorities and less educated jurors were more likely to acquit than to convict (Bornstein and Rajki, 1994).

As a result of studies like these, one author points out that there have been many attempts to make the jury system more racially fair. The two major ways cited are (1) creating a jury racially representative of the community, or (2) producing a completely random jury, but in fact, these attempts

have failed, merely giving the impression of fairness (Golash, 1992). Essentially, by using either or both of these methods tailored to each individual, we are abolishing the very fairness we are trying to attain. However, race is only one factor which has been indicated as an unfair component of the U.S. jury system.

The second juror attribute, gender, has been found to be a very complex issue depending on the type of case being tried. Most literature has concentrated on rape trials, with findings indicating that females were more likely to find the defendant guilty and to punish the defendant more harshly (Feldman-Summers and Lindner, 1976). One must be careful not to generalize to other case types since rape has practically been the only type of case studies with respect to gender.

A representative study concerning the third juror attribute, age, has shown that younger jurors are more apt to acquit defendants and be more lenient when administering punishment (Stephan and Tulley, 1973). Again, this finding is limited to the type of crime in question. Often the crime is connected to an authoritarian nature of the defendant. In all, the juror attribute literature suggests that there is certainly an appreciable relationship between juror attributes and the outcome of trials, but these effects become highly complex when interacting with each other (Frederick, 1987), and relationships vary when looking at different sorts of cases.

The second group of extra-legal effects concentrates on source characteristics, in other words, the attributes of who is conveying the information as it is being presented. The main focus of this research concentrates on the persuasiveness that an attorney or witness exudes. One area of research indicates that source credibility is a major source of information for jurors. Many components factor into the credibility of a witness or attorney, including expertise, trustworthiness, and timing of arguments at trial (Frederick, 1987). Other source characteristics that have been examined are perceived attractiveness of the attorneys, similarity of attorneys to jurors, and both verbal and non-verbal behavior exhibited by attorneys. For example, one study reported that use of passive voice, statements pertaining to an expert's training, and words that reflected suffering were key in positively influencing the jurors perception of credibility (Hurwitz, Miron, and Johnson, 1992). Another study found that even the gender of the attorneys has effects on the decision of jury members (Hahn and Clayton, 1996), its results indicating

that male attorneys are generally more successful than female attorneys. Once again we see many interactive effects amongst these factors, leading critics to wonder when we can rely on these factors consistently across cases and individuals.

The final group of extra-legal factors are those of the evidence itself or what we will call evidential attributes. Evidential attributes are characteristics of the evidence that do not have to do with the actual content of the evidence. Evidential attribute research is based mainly on concepts of persuasion. Some of these factors involve subtle differences in physical space allotted to jurors and emotional influences from the environment. One study found that a more aggressive presentation style by attorneys was more successful at gaining acquittal than was a passive style (Hahn and Clayton, 1996). Some studies have focused on what the best means of presenting information are. Some basic findings include the importance of graphical information and demonstrative, visual aids (Oliver and Griffitt, 1976). Oliver and Griffitt (1976) found that a simple change in using color slides vs. black and whites was enough to incur greater monetary awards in civil suits. Once again, however, we run into the difficulty of significant interactive effects that are fairly difficult to predict across case types and individual jurors.

Seeing how long a road it would be to continue trying to sort out the multitudes of interactive effects with regard to ELF's, researchers have begun to look beyond ELF's and concentrate on the evidence itself as a focal point for juries and jury decision-making processes. One author notes that ELF's only come into play when "the evidence is evenly matched or where emotional issues are involved" (Boyll, 1991). This extremely "case-sensitive" nature of ELF's becomes the major point of attack for studies that find fault in the claim that extra-legal factors are more influential than pure evidence. These studies call into question the intense, almost scientific means of jury selection, and how attorneys spend far too much time trying to find the ultimate jury to help them win their case. Such critics believe that if a lawyer wants to be truly influential at trial, instead of using an inordinate amount of time and energy on scientific means of jury selection, perhaps those same scientific means should be used to figure out how to best present a strong case, with strong testimony, and exceptional witnesses (Saks, 1976).

For example, it has been shown that demographics of jurors and personality attributes were correlated only non-significantly with verdicts and that no specific group is more conviction-prone than another group (Penrod, 1990). Another study has preliminarily found that it is more a question of the attitude of the potential jurors toward receiving good evidence, rather than the qualities of the jurors or the way the attorney is perceived that positively affect the desired verdict (Hepburn, 1980). Yet more evidence seems to paint a picture in which jurors are largely influenced by evidence and only slightly swayed by extra-legal factors when determining guilt of the defendant (Visser, 1987). Some authors have pointed out that studies done up to now have ignored the quality of the evidence that is being used in experimental situations. Saks (1976) faults previous studies in making the cases entirely too arbitrary in their trial evidence, leading jurors to make decisions that could only be based on outside, extraneous variables.

We can see that these two sides could wage methodological war with each other for quite some time. What is needed is a definitive procedure for presenting evidence that would prevent jurors from resorting to using the usually legally insignificant ELF's. A powerful enough procedure might truly show us how important extra-legal factors are to jury decision-making by eliminating the question of whether or not the evidence has been properly presented in a comprehensive format.

As stated at the outset of this review, it has become more and more prevalent to see complex issues that contain highly technical material at trial (Cooper, Bennett, and Sukel, 1996). There has been consideration given to complexity issues in trials that are lengthy, involve multiple defendants, require multiple verdicts, etc., but one aspect of complexity that has been all but ignored is the emergence of highly complex scientific testimony presented by expert witnesses at trial. This is somewhat perplexing, because we are seeing such an increase in the number of suits that involve scientific concepts which are beyond the scope of normal understanding. The lack of research could be due to the fact that highly technical testimony is a recent phenomenon, but this does not change the necessity to explore the topic. It is quite obvious, as one author points out, that this kind of testimony will be naturally difficult for jurors to comprehend (Cecil et al., 1987) especially when expert witnesses flood jurors with highly specific scientific jargon that the jurors have never encountered (Freckleton, 1987). However, both



authors agree that it is likely that jurors could comprehend the information if it were given to them in a proper manner. To expand this idea, if the complex scientific information were to be presented in a format that jurors could grasp, then the evidence would again become the primary factor in the trial instead of the random and interactive effects found when jurors use ELF's.

The present study makes an attempt at finding a strong set of rules that would help jurors to rely less on extraneous factors when involved in a scientifically complex case, and to, instead, rely on their own cognitive abilities to reason out the facts of the case. In examining the concept of using an expert witness, we have recognized that, in the courtroom, expert witnesses come to be very much like teachers for the jury members, and, pursuing the analogy to its conclusion, jurors are effectively the students of their expert witness "teachers". A possibility for satisfying the need for a set of rules in the "virtual classroom" idea is to turn to the wide range of literature in the field of educational psychology which provides theories as to what pedagogical methods lend themselves to this kind of learning environment. Specifically, David Ausubel's theory and research in educational psychology seem an appropriate start for finding a solid method for presenting complex testimony.

In the classroom, it is important for students to be able to incorporate the information that they are being given into their memories for future use. Ausubel states that students naturally tend to incorporate new information into their existing cognitive structure by relating new information to that which already exists (Ausubel, 1968). It is this process that facilitate what Ausubel calls "meaningful learning". Meaningful learning is learning which has some kind of legitimate and personal connection to an individual, which helps to facilitate recall at a later date. The way in which students best learn is by creating a network of information in which connections are constantly being formed to old information, which greatly facilitates learning. In fact, it is most beneficial when new information has some kind of personal relationship to the individual that can more easily be connected to the previously learned material. To really get any kind of meaningful reception of information, it must be relevant to the recipient. It is also most productive for learning when there is a reconciliation of new and old information. In other words, one or the other (new or old information) is reformulated so that the two sets of information match each other and can be synthesized into a greater whole.

In addition to the suggestions mentioned above, there are other suggestions that Ausubel makes concerning the way students should be taught. Concerning instruction materials, every individual is somewhat different in how they best perceive information, but overall there are a few rules to follow for everybody. First, there should be sufficient repetitiveness of information by using analogy, paraphrase, and examples (Ausubel, 1968). This means that information should be given to them in varied forms in the attempt to hit on an example or analogy that they can relate to. If possible, complex information should begin at the easiest principles and slowly proceed to an increasing level of difficulty, which generally facilitates the learning process.

Graphic and non-verbal presentation modes should not be expected to explain information, but instead clarify that which has already been presented. This means that teachers should not exhibit a graph and/or figure and expect that it be sufficient to explain a complex concept. Instead, the graph should be used as support for a more detailed explanation given by the teacher.

An additional component of effective learning is the encouragement of sufficient motivation to learn by teachers. Teachers should show a level of excitement that reflects the importance of the information they are going to give (Carter, 1935). The students need to be encouraged to pay close attention, as the incoming information may help them pass a test or write a paper later on.

Finally, students should be encouraged to discuss the material presented to them. Ausubel believes that complex material should be initially learned on an individual basis, but once class has adjourned, students should share their interpretations of the evidence. Ausubel expects that this would indeed finalize the absorption process and work out any incorrect conclusions about the information.

The most important of Ausubel's ideas to the present study is the use of "advance organizers". An advanced organizer is a type of preliminary material that gives students an idea of how incoming information is going to be organized (Ausubel, 1968). This tool increases comprehension and conceptualization of novel information; thereby, helping students apply more critically what they've learned about. Giving an initial means of organization helps to bring clarity and meaning to forthcoming information and allow for more efficient use of that information (Ausubel, 1978).

The present study will attempt to use Ausubel's concepts of meaningful learning by applying them to juries, expert witnesses, and attorneys. The above concepts are very much associated with the processes that occur when jurors are being "taught" complex scientific information. It can be inferred from the legal environment of the courtroom that jurors be treated like students while attorneys and witnesses be considered their teachers. Recommendations to attorneys are as follows: 1) complex scientific evidence should be presented in such a way that jurors can make connections to their personal lives, bringing about meaningful learning of the evidence, 2) the evidence should be presented with fair amount of repetition, using analogies when applicable, to hopefully come across a explanation that all jurors can understand, 3) graphs should aid explanation of evidence, but not allowed to stand on their own, 4) jurors should be encouraged to be excited about the material given to them, 5) jurors should be instructed to carefully discuss the information given to them once the trial has adjourned (this concept is integral in supporting the continued use of the deliberative process), 6) attorneys should capitalize on using advanced organizers to prepare jurors for the evidence that will be given to them. For the above mentioned reasons, doing all of these things will increase both memory and comprehension of scientific evidence that is critical to a correct verdict.

It is important to consider the allegation that using Ausubel's techniques in the courtroom is nothing more than a change of environment. In other words, the courtroom is simply a classroom for adults, and, therefore, showing that Ausubel's concepts will produce the desired results is not such a spectacular finding. The current research sees a crucial flaw in this logic, however. In presenting jurors complex scientific evidence in an Ausubelian fashion, we are actually altering the way in which they make their decision about the case. Jurors are not learning the information just so they can regurgitate it at a later time. They are learning the information in order to critically apply it and render a final verdict. It is our belief that this is a very important fundamental difference between a normal classroom and the "virtual" classroom of a jury.

Using Ausubel as a theoretical basis for the current study, participants will watch a videotape of a mock trial in which an advanced organizer will be incorporated into the testimony of the witness. A second group of participants will watch a mock trial in which this concept will not be utilized (i.e., the

witness will be allowed to explain complex scientific information in a traditional evidentiary setting). The experimenters believe that the concept of the advanced organizer is the most far-reaching and fundamental tool in Ausubel's theoretical repertoire, and have elected to eliminate incorporating his other recommendations for the current experiment.

It is predicted that all jurors will better remember and comprehend complex scientific testimony if the information is presented in the manner that Ausubel prescribes. In the process of using the actual evidence through the use of Ausubel's techniques, it is predicted that the importance of ELF's will become negligent. In other words, it is expected that mock jurors will attribute their decision to the evidence (rather than ELF's) when exposed to Ausubel's techniques. Memory and comprehension of information will be measured by requiring that participants complete a questionnaire designed by the experimenters that will report perceived importance, application of conceptual issues, and overall amount of complex information stored in memory. It is also predicted that jurors will report better overall attitudes towards the attorney and expert witness who used Ausubel's techniques versus those that didn't. This effect will be measured in a brief inventory asking mock jurors to evaluate the effectiveness of the attorneys and their attitudes toward each. Finally, it is hypothesized that mock jurors will tend to make more decisions based purely on the evidence if they are informed about the complex science using Ausubel's techniques. This will be evaluated by testing for the reasoning that jurors used to come to the decision that they did: using ELF's or the evidence itself as a basis for the decision.

## Method

### Participants

Forty-seven undergraduate participants (33 females, 14 males) were recruited via a midwestern university campus newspaper, ranging in age from 18-22, with an average age of 19.1. Participants were from a wide range of majors and academic years. All participants were paid \$10 for their participation.

### Materials

Each video was created by collecting scientific evidence on the subject of memory and its application to the case. The case in question was the trial of a clinical psychologist on trial for

implanting “false memories” in the plaintiff’s memory. The literature on this phenomenon is fairly complex, and experimenters were sure to create testimony that would best focus on the verdict at hand. Each script included the direct examination of an expert witness for the prosecution. All aspects of the testimony were duplicated in video #2, except the testimony of the expert was presented in such a way as to use the major concept that Ausubel purports to be useful in educational settings, the advanced organizer. The scenario that was given to jurors can be found in Appendix 1.

After watching their respective video tape, jurors were asked to render a decision, then elaborate on what helped them come to that decision by way of questions designed to test the influence of each factors during the trial. Jurors were also asked, using a number of scaled-questions, about their attitudes towards the attorneys and expert witness. With regard to memory and comprehension, jurors were first asked to freely recall the information presented to measure memory, and asked a series of questions to assess their comprehension of the difficult scientific material that was presented to them in the mock trial.

#### Procedure

Mock jurors who participated in the study were surveyed on an individual basis. Each juror was assigned to one of two groups. Group 1 watched a mock trial in which Ausubel’s advanced organizer recommendation was not incorporated into the testimony. The lawyer and expert witness was allowed to present the testimony in a traditional manner with very little instruction. Group 2 watched a video in which Ausubel’s concept was utilized to its fullest extent, using a complete advanced organizer before presenting the complex information.

After receiving informed consent, the experimenters explained to each juror that the study was intended to determine how jurors make decisions. The experimenters also indicated that the jurors should pay close attention to the evidence presented to them in order to make the best decision they can. Jurors were not allowed to deliberate with each other, and at the end of their respective video, were asked to answer a series of questions designed to test comprehension, attitudes, and nature of the final decision.

#### Results

The experiment was an independent samples, experimental design with the independent variable (IV) being method of presentation (traditional vs. Ausubelian). There were six dependent variables (DVs) measured. Memory of evidence was evaluated by asking for a free recall of the information presented at trial. The total number of correct details was calculated to determine memory differences. Comprehension differences were evaluated by a score on a five question, short answer test created by the experimenters, with a possible score of 0-5. The third DV, attitudes toward witnesses and attorneys, was evaluated according to Likert scales designed by the experimenters. The fourth DV, final verdict, was evaluated by simply asking what decision that participant would make considering the information presented to them thusfar. The fifth DV, basis for final verdict, was evaluated by asking participants to respond 'yes' or 'no' to a series of questions designed to determine what factors in the testimony played a part in their final verdict. The final DV, amount of compensation, was evaluated by asking jurors who handed down a guilty verdict to give an estimate of the amount of money the plaintiff should receive (after given an average figure for a case of this type). Measures of memory, comprehension, compensation, and attitudes were analyzed using independent samples t-tests, while measures of final verdict and influence of trial factors on the final verdict were analyzed using chi-square tests.

The measure of memory yielded insignificant results,  $t(45) = 0.93$ ,  $p > .05$ . There was also no significant difference found for the comprehension task,  $t(45) = 0.27$ ,  $p > .05$ . The analysis of compensation also offered no indication of a difference between the two groups,  $t(26) = 0.63$ ,  $p > .05$ . The statistical manipulation performed on final verdict did not show a difference either,  $2(1, N=47) = 0.037$ . Results of analyses on the last two DVs, attitudes towards the attorney/witness and trial factor influences on final verdict are summarized in Table 1 and Table 2, respectively, all insignificant.

Table 1: Chi-Square Values for Attribution of Trial Factors on Final Decision

<b><u>Trial Factor</u></b>	<b><u>Chi-Square Value</u></b>
Attorney's Appearance	$\chi^2 = (1, N=47) = 2.17$
Attorney's Demeanor	$\chi^2 = (1, N=47) = 0.43$
Previous Knowledge	$\chi^2 = (1, N=47) = 1.34$
Witness' Appearance	$\chi^2 = (1, N=47) = 0.00$
Witness' Demeanor	$\chi^2 = (1, N=47) = 0.09$
Testimony	$\chi^2 = (1, N=47) = 0.89$
Other	$\chi^2 = (1, N=47) = 0.07$

Table 2: T-Values for Attitudes Toward Attorney and Witness Attributes

<b><u>Attitude</u></b> <b><u>Subcategory</u></b>	<b><u>T-Value</u></b>
Attorney's Appearance	$t(45) = .34, p > .05$
Attorney's Demeanor	$t(45) = 1.41, p > .05$
Witness' Appearance	$t(45) = 1.10, p > .05$
Witness' Demeanor	$t(45) = 0.40, p > .05$

### Discussion

Juries are currently faced with the difficulty of understanding and using increasingly complex information when cases come to trial. In order to better facilitate the comprehension and application of complex scientific testimony, it is important that we come up with a standardized means of presenting the information to jurors so that they may use it successfully. It was expected that mock jurors who were given an Ausubelian advanced organizer would better remember, comprehend, and apply the testimony

given to them by an expert witness regardless of extra-legal factors (ELFs) that might be present at trial. As the statistical results indicate, none of these variables measured were significantly influenced by method of testimony presentation (traditional vs. Ausubelian).

At first glance, the implications of these findings would paint a bleak picture for the future of jury decision-making improvements with regard to complex testimony. It could be concluded that there is no hope for assisting jury members in their information processing tasks. However, this would be a premature and unnecessary conclusion. The current study must be more closely examined in its method to determine if there are any ways that it may be improved.

First, it must be noted that the current study only utilized one of David Ausubel's theoretical constructs (the advanced organizer). Perhaps it is necessary to include the other ideas put forth by Ausubel, including metaphor, repetition, and graphic aids. It is the researchers' belief that a combination of these factors may be necessary in order to get the significant differences in understanding and memory that were expected.

Secondly, due to unavoidable circumstances, the materials and measures were considerably unrefined for a study of this magnitude. There were no pilot studies done or any other preliminary revisions of the measures, and the videotape was a much more simplified version of the originally conceived product. Given ample time and resources, a more solid set of measures and a more "professional" videotape may have yielded better results.

Another shortcoming of this experiment was the test environment. Jurors were asked to simply fill out the survey after viewing their respective videotape, and may not have been sufficiently motivated to perform well on the measures. Motivation is one cognitive aspect of learning that David Ausubel believes is crucial in learning of new information. Without motivation, students (jurors) have nothing to keep their attention and focus their energy. If the experimenter had taken more initiative in emphasizing the importance of the case, implications of the experimental results, etc., there may have been reportable differences in the two groups.

Finally, it must be noted that jurors were not allowed to deliberate during test sessions. This is a common objection to many mock jury experiments, and it must be addressed. In this experiment, for



lack of resources and participants, it was practically impossible to conduct sessions where jurors were allowed to deliberate, but it would be interesting to see if the results would have been different given the allowance for juror deliberation. David Ausubel notes that allowing students to discuss newly learned information amongst themselves is one way that the material can be solidified in a student's cognitive structure. Perhaps the deliberative process is a more important and vital process than current jury researchers believe possible.

In summary, it is our conviction that this line of research is a valid and worthwhile project. We are firm in our belief that the concepts presented by David Ausubel and his theories of educational psychology are more than applicable to jury decision-making processes. It is unfortunate that the current study may deter others from attempting to support the idea of the "virtual classroom", but we believe that the aforementioned shortcomings more than account for the insignificant results discovered. It is our hope, that in the future, jury researchers will cultivate and clarify the meshing of cognitive psychology and educational psychology with regard to jury decision-making processes.

### References

- Ausubel, D.P. (1978). *In defense of advance organizers: a reply to the critics*. Review of Education Research, 48, 251-257.
- Ausubel, D.P. (1968). Educational psychology: a cognitive view. New York: Holt, Rinehart, and Winston, Inc.
- Bornstein, B.H. and Rajki, M. (1994). *Extra-legal factors and product liability: the influence of mock jurors' demographic characteristics and intuitions about the cause of an injury*. Behavioral Sciences & the Law, 12(2), 127-147.
- Boyll, J.R. (1991). *Psychological, cognitive, personality, and interpersonal factors in jury verdicts*. Law & Psychology Review, 15, 163-184.
- Broeder, D.S. (1959). *The university of chicago jury project*. Nebraska Law Review, 38, 744-761.
- Carter's study (as cited in Ausubel, 1968)
- Cecil, J.S., Hans, V.P., and Wiggins, E.C. (1987). *Citizen comprehension of difficult issues: lessons from civil jury trials*. The American University Law Review, 40, 727-774.
- Cooper, J., Bennett, E.A., and Sukel, H.L. (1996). *Complex scientific testimony: how do jurors make decisions?* Law and Human Behavior, 20(4), 379-394.
- Feldman-Summers and Lindner. (1976). *Perceptions of victims and defendants in a criminal assault case*. Criminal Justice and Behavior, 3, 135-150.
- Freckleton, I.R. (1987). The trial of the expert. New York: Oxford University Press.
- Frederick, J.T. (1987). The psychology of the american jury. Charlottesville, Virginia: The Michie Company.
- Freyd, P. (1997, September 30th). FMS Foundation Newsletter. 6(9). Available: FMS-News.saul.cis.upenn.edu.
- Golash, D. (1992). *Race, fairness, and jury selection*. Behavioral Sciences and the Law, 10, 155-177.

Hahn, P.W. and Clayton, S.D. (1996). *The effects of attorney presentation style, attorney gender, and juror gender on juror decisions.* Law and Human Behavior, 20(5), 533-554.

Hepburn, J.R. (1980). *The objective reality of evidence and the utility of systematic jury selection.* Law and Human Behavior, 4(1-2), 89-101.

Hurwitz, S.D., Miron, M.S., and Johnson, B.T. (1992). *Source credibility and the language of expert testimony.* Journal of Applied Social Psychology, 22(24), 1909-1939.

Oliver and Griffitt. (1976). *Emotional arousal and objective judgment.* Bulletin of the Psychonomic Society, 8, 399-400.

Pennington, N. and Hastie, R. (1999). *Practical implications of psychological research on juror and jury decision making.* Personality and Social Psychology Bulletin, 16(1), 90-105.

Penrod, S.D. (1990). *Predictors of jury decision making in criminal and civil cases: a field experiment.* Forensic Reports, 3(3), 261-277.

Roper, R.T. (1986). *A typology of jury research and discussion of the structural correlates of jury decisionmaking.* The Justice System Journal, 11(1), 5-15.

Saks, M.J. (1976). *The limits of scientific jury selection: ethical and empirical.* Jurimetrics Journal, Fall, 3-22.

Stephan and Tulley. (1977). *The influence of physical attractiveness of a plaintiff on the decisions of simulated jurors.* Journal of Social Psychology, 101, 147-150.

Ugwuegbu. (1979). *Racial and evidential factors in juror attributes of legal responsibility.* Journal of Experimental Social Psychology, 15, 133-146.

Visher, C.A. (1987). *Juror decision making: the importance of evidence.* Law and Human Behavior, 11, 1-17.

### Appendix 1

Brenda Baker began seeing Dr. Sara Maller, a licensed clinical psychologist, because she often felt anxious, physically ill, and thought she may have an eating disorder. Brenda thought that her problems might be attributable to early sexual abuse she knew she had experienced at the hands of her cousin, Matt. Within the first couple of sessions, Dr. Maller began to inquire about the relationship of Brenda's parents, Jim and Debbie Baker, to the incidents. Specifically, she wanted to know the nature of the "shady figures" in the nightmares Brenda had on occasion. Dr. Maller suggested by the fifth session, through various assessment techniques, that Brenda's parents were fully aware of the abuse being inflicted on Brenda by her cousin, and were perhaps involved in the abuse themselves.

Throughout Brenda's therapy, Dr. Maller tried a few different techniques to flush out Brenda's memory of her childhood trauma. These techniques included hypnosis, trance writing, and dream directing. Dream direction was not used until the later sessions as it tended to cause more emotional distress in patients than the other therapies. Memories of sexual abuse at the hands of Brenda's parents began to surface by the fifteenth therapy session, after using various combinations of the aforementioned therapy types. Brenda first began to recognize that her "shady figures" were in her bedroom. She reported feeling that the figures came to her room to abuse her. Finally, she realized that the shady figures were, in fact, her parents. Dr. Maller concluded that these memories had been repressed by Brenda, explaining why it took so long for her to recall them from her memory.

Less than 2 months into the therapy sessions, Brenda's parents were invited to a therapy session and were directly confronted by Brenda. They were informed of all of her recalled memories of abuse, with the encouragement of Dr. Maller at her side. This confrontation led to the dissolution of Brenda's relationship to her family, eventually leading her to cut off contact with them completely.

Jim and Debbie Baker are suing for emotional trauma and the destruction of their family at the hands of Dr. Maller. The prosecution is arguing that the techniques that Dr. Maller used in therapy were improper, and that she implanted the memories that Brenda had recalled concerning her parents. It will be argued that Dr. Maller's techniques changed Brenda's memories to a fit a pattern that she saw between the symptoms that Brenda presented and those found in other sexually abused individuals. The prosecution will attempt to show that no abuse could have occurred because of Brenda's living arrangements and the character of her parents.

The defense believes that the techniques Dr. Maller used were perfectly legitimate and accepted by members of the psychological community. They will argue that concepts like denial and repression are very common to clinical therapy, as are the specific techniques Dr. Maller used during Brenda's sessions. The defense will also argue that Dr. Maller's techniques couldn't have possibly implanted such vivid and emotionally traumatic memories as Brenda experienced. In fact, they will say that her memories are not the type that are subject to the malleability the prosecution will contend occurred.

Based on the evidence that you will hear from Mr. Robert Eastburn's direct examination of the prosecution's expert witness, Dr. Beth Pederson, you will be expected to come to a decision on this question: could Dr. Maller have implanted false memories in Brenda's mind? You will also be asked what your verdict in this case would be if you were asked to render it based on the evidence you hear.

Appendix 2  
**Demographic Information**

**Age:** \_\_\_\_\_

**Year in School:** \_\_\_\_\_

**Gender:** \_\_\_\_\_

**Major:** \_\_\_\_\_

**GPA (optional):** \_\_\_\_\_

**Please indicate which of the following psychology courses you have taken:**

**General Psychology 100:** \_\_\_\_\_

**Cognitive Psychology 212:** \_\_\_\_\_

**Advanced Cognitive Psychology 312 (before Spring, 1998):** \_\_\_\_\_

**Advanced Cognitive Psychology 312 (after Spring, 1998):** \_\_\_\_\_

**Illusion of Memory 332 (May Term, 1996):** \_\_\_\_\_

**Have you ever had any experience with recovered memory or child abuse?:** Y or N

*Please describe the content and conclusions of Dr. Pederson's testimony in the following space:*

- What is the usefulness of retrieval cues in memory processes?
- When emotional memories are encoded, what is the strength and nature of the memories?
- Briefly discuss the reconstructive nature of memory.

- How vulnerable are memories to distortion and which memories are most susceptible to this distortion?

-Can false memories be produced? How does the false information effect factor into your answer?



*Please circle the number that best describes how you felt about each of the following:*

**Dr. Pederson's personality and demeanor:**

1	2	3	4	5
very unprofessional	somewhat unprofessional	neutral feelings	somewhat professional	very professional

**Dr. Pederson's appearance:**

1	2	3	4	5
very unprofessional	somewhat unprofessional	neutral feelings	somewhat professional	very professional

**Mr. Eastburn's personality and demeanor:**

1	2	3	4	5
very unprofessional	somewhat unprofessional	neutral feelings	somewhat professional	very professional

**Mr. Eastburn's appearance:**

1	2	3	4	5
very unprofessional	somewhat unprofessional	neutral feelings	somewhat professional	very professional

*If you were asked to render a verdict based on  
the evidence you have heard thus far what it be?*

Guilty                      or                      Not Guilty

*Which of the following would you say influenced your decision? (check all that apply):*

\_\_\_ Personal knowledge/beliefs (prior to viewing the videotape)

Please explain:

\_\_\_ Appearance of Mr. Eastburn

Please explain:

\_\_\_ Appearance of Dr. Pederson

Please explain:

\_\_\_ Personality and demeanor of Mr. Eastburn

Please explain:

\_\_\_ Personality and demeanor of Dr. Pederson

Please explain:

\_\_\_ Testimony of Dr. Pederson

Please explain:

\_\_\_ Other

Please explain:

If your verdict was guilty, please turn to the next page, otherwise you may stop now.

*The average award given for a guilty verdict in a case like this is \$1,000,000. If you had to decide on the amount of money that should be awarded for compensation in this case, what would you suggest?*

\$ \_\_\_\_\_

*Which of the following would you say influenced your decision? (check all that apply):*

\_\_\_ Testimony of Dr. Pederson

Please explain:

\_\_\_ Personality and demeanor of Dr. Pederson

Please explain:

\_\_\_ Personality and demeanor of Mr. Eastburn

Please explain:

\_\_\_ Appearance of Dr. Pederson

Please explain:

\_\_\_ Appearance of Mr. Eastburn

Please explain:

\_\_\_ Personal knowledge/beliefs (prior to viewing the videotape)

Please explain:

\_\_\_ Other

Please explain:



f your verdict was guilty, please turn to the next page, otherwise you may stop now.

*The average award given for a guilty verdict in a case like this is \$1,000,000. If you had to decide on the amount of money that should be awarded for compensation in this case, what would you suggest?*

\$ \_\_\_\_\_