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The Impact of Protective Shields and Videotape Testimony on Conviction Rates in a Simulated Trial of Child Sexual Abuse*

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In Experiment 1 mock jurors watched a videotape simulation of a sexual abuse trial that included a 10-year-old child witness testifying in one of three different modalities: (1) The child testified in court while directly confronting the defendant (open court condition). (2) The child testified in court with a protective shield placed between the child and the defendant (shield condition). (3) The child testified outside the courtroom and the child's testimony was presented to the jury and the defendant on a video monitor (video condition). The mock jurors judged the guilt of the defendant after watching the entire trial. The modality of the child's testimony had no impact on conviction rates. In Experiment 2 subjects watched the same trial that was used in Experiment 1. The trial was stopped immediately after the child testified (the child was the first witness to take the stand), and subjects judged the guilt of the defendant. The modality of the child's testimony had a significant impact on conviction rates. Subjects in the open court condition were more likely to convict the defendant than subjects in the shield and videotape conditions. These findings are relevant to Supreme Court decisions regarding the use of protective devices with child witnesses.

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In many criminal cases involving sexual abuse, kidnapping, and domestic violence, a child is the sole eyewitness to the crime. The experience of testifying in these types of cases is often traumatic for children, and there has been a growing concern over protecting the psychological welfare of children who participate in the legal system (Goodman et al., 1992). As a result, several states have taken steps to reduce the amount of stress involved when a child testifies. One technique involves placing a protective shield between the child and the defendant that ensures that the child will not see the defendant (*Coy v. Iowa, 1988*). The logic is that by shielding the child this will reduce the trauma associated with testifying, and thus enhance the accuracy of the child's testimony. In a similar vein, the testimony of children is sometimes videotaped outside the courtroom, and then presented to the jury and the defendant on a video monitor.

The Supreme Court has recently debated whether the use of a protective device with child witnesses (shields/videotape testimony) violates the defendant's Sixth Amendment right to a public trial in direct confrontation with his or her accuser (i.e., child witness/victim). The concern is whether the presence of a protective device in the courtroom implies that the defendant is guilty by suggesting to the jury that the child needs protection from the defendant (*Coy v. Iowa, 1988; Craig v. Maryland, 1990*; see also Goodman, Levine, Melton, & Ogden, 1991; Montoya, 1992). The critical question is whether the use of a protective device is prejudicial because it enhances the likelihood of a conviction. In a recent case the Supreme Court ruled that protective devices are not unconstitutional and that their presence does not imply guilt (*Craig v. Maryland, 1990*). Unfortunately, to date, there are very few empirical data on this issue. The present study examines the issue of implied guilt by determining whether the use of a protective device has an impact on jurors' conviction rates. For example, are jurors more likely to convict a defendant if a child testified behind a shield or through a video monitor as opposed to testifying in open court while confronting the defendant face to face?

The present study will also investigate what impact, if any, the use of shields and videotape testimony has on jurors' reactions to testimony given by children. A *credibility inflation hypothesis* states that using a protective device (either a shield or videotape testimony) will enhance a child's credibility because jurors will perceive the child's testimony as protected from the negative effects of fear and trauma associated with confronting the defendant in the courtroom. Conversely, a *credibility deflation hypothesis* states that using a protective device may undermine a child's credibility because it suggests to the jury that the child is fragile, in need of protection, and thus a potentially unreliable witness. The results of this study should have important legal implications regarding the use of protective devices in trials that involve a child witness.

To our knowledge only two experimental studies have examined whether the use of a protective device has an impact on conviction rates in trials involving child witnesses. Taken together, these studies suggest that using a protective device (i.e., videotape testimony) does not increase the likelihood of a conviction, although it may influence the types of thoughts (proprosecution or prodefense) that jurors have during a trial. For example, in a study by Swim, Borgida, and

McCoy (in press) mock jurors watched a videotape recreation of a sexual abuse trial. A child witness testified in open court while confronting the defendant or through a video monitor. The conviction rate for three of the four counts charged to the defendant did not vary in the two conditions. However, on one count (criminal sexual assault in the first degree) subjects in the video condition were significantly less likely to convict the defendant than subjects in the open court condition. This occurred even though subjects in the video condition reported having more prosecution thoughts during the trial than subjects in the open court condition.

In a study by Goodman et al. (1992) an adult male videotaped children of various ages (5–6 and 8–9 years of age) playing a game that involved exposing or not exposing a part of their body. At a later point in time, the children testified in a mock trial concerning whether the adult had videotaped them while exposing a part of their body. In a realistic mock trial that took place in an actual courtroom the children testified live—in open court while confronting the defendant, or through a one-way video monitoring system. The crime at hand was whether the adult had videotaped the children while they exposed a part of their body. Members of the community served as mock jurors and deliberated as a group after the trial was over. The conviction rate did not vary in the two conditions; however, children who testified via videotape were perceived by the mock jurors more negatively on a variety of dimensions, such as witness accuracy, honesty, believability, attractiveness, intelligence, confidence, and ability to differentiate fact from fantasy, than children who testified in open court. (See also Tobey, Goodman, Batterman-Faunce, & Orcutt, 1993 and Orcutt et al. 1993, for a report of these findings.) In another condition in the Goodman study, children who did not expose a part of their body while interacting with the adult male, were instructed to fabricate a story that he/she had exposed parts of his/her body while interacting with him. The purpose of this condition was to test an assumption made by Supreme Court Justice Scalia that jurors are more accurate at detecting deception if a child testifies in direct view of the defendant versus testifying using videotape. The results indicated no support for this view, that is, the modality of the child's testimony had no impact on the ability of the mock jurors to detect whether the child was fabricating his/her testimony.

Overview

In the studies reported below, mock jurors watched a videotape recreation of a sexual abuse trial that included a 10-year-old child witness who testified in one of three different modalities: (1) The child testified in court while directly confronting the defendant (open court condition). (2) The child testified in court with a shield placed between the child and the defendant (shield condition). (3) The child testified outside the courtroom and the child's testimony was presented to the jury and the defendant on a video monitor (video condition). After watching a version of the trial, the mock jurors judged the guilt and credibility of the defendant, and the credibility of the child witness. Because all aspects of the case are held constant except the modality used to present the child's testimony, we

could measure what impact, if any, the shield/videotape had on how jurors responded to the defendant and the child witness.

EXPERIMENT 1

Method

Subjects

A sample of 300 college students (150 males and 150 females), recruited from an introductory psychology class, participated in the experiment. The majority of the students were White and middle class.

Materials

Subjects watched a two-hour videotape of a sexual abuse trial. The trial involved a 10-year-old girl who accused her father of sexual abuse. The child claimed that her father touched her vagina as he dried her off after a bath. The father denied the charge claiming that his former wife had convinced the child to fabricate the allegation in an attempt to win custody rights of the child in a heated divorce. The father admitted to touching the child's genital area, but said he was applying a medicine to a rash he noticed while drying her off after her bath. He claimed the touch was not sexual in nature and that he was performing his responsibilities as a parent. The child also testified that her father had physically abused her, slapping her so hard she fell down and cut her head on a coffee table. The father said the girl cut her head by falling off her bicycle. Throughout the testimony, the child claimed to fear her father because of his past punitive treatment of her. The child was the first witness to testify in the trial followed by a clinical psychologist who served as an expert witness for the prosecution who said the child was abused, the child's biological mother, the defendant, the defendant's current wife, and a clinical psychologist who served as an expert witness for the defense who said the child was not abused.

The trial was very realistic because it was based on an actual court transcript, and videotaped in an actual courtroom by a professional film production company using three cameras. Professional actors and actresses were hired to play the various roles in the trial. In fact, the prosecution and defense attorneys were both actors and attorneys. Moreover, two attorneys—one with expertise in prosecuting child sexual abuse cases—were hired to write and modify the transcript and to ensure that the trial was ecologically valid in terms of legal procedure (i.e., juror instructions, reading of the charge, the proper use of protective devices, reasonable doubt standard), and that the quality, nature, and delivery of the child's testimony portrayed in the videotape was as representative as possible of real world cases of sexual abuse.

Three versions of the trial were created. These were identical except the modality in which the child testified. In the open court condition, the child testified directly in front of the defendant. In the shield condition a 4 × 6-ft screen was

placed in front of the defendant to block his view of the child witness. In the videotape condition, the child testified through a video monitor. The judge instructed the jury that a one-way system was being used, meaning that they could see the child but the child could not see into the courtroom where the jury and the defendant were seated. The judge then instructed the jury that he and the attorneys would leave the courtroom and be seated in another room with the child witness, and that the jurors would remain in the courtroom with the defendant and watch the child testify on the monitor. In the shield and videotape condition the judge warned the jury, just before the child took the witness stand, that the use of the protective device did not imply that the defendant was guilty. This was done because in actual cases an implied guilt warning was given when a protective device was used (*Coy v. Iowa*).

The implied guilt warning used in the shield and videotape condition are as follows:

I will now read you an instruction regarding the physical makeup of the courtroom in relation to the next witness. Members of the jury, it is quite obvious that a screen has been placed in the courtroom in front of the defendant. The legislature of this state recently passed a law which provides for this sort of procedure in cases involving children. I will caution you now that you are to draw no inference of any kind from the presence of that screen. You know in the plainest of language, that the screen is not evidence of the defendant's guilt, and you should not think that the presence of the screen in the courtroom implies or suggests that the defendant is guilty. It is very important that you keep this in mind.

Members of the jury you will not have an opportunity to hear some testimony through the use of a one way video monitoring system. You will notice that a video monitor has been placed in front of the jury box for you to watch. This will enable you to watch the testimony of the next witness without her being present in the courtroom. The one-way monitoring system is designed so that you will be able to see the witness testify, but she will not be able to see into the courtroom. The legislature of this state recently passed a law which provides for this sort of procedure in cases involving children. I will caution you now that you are to draw no inference of any kind from the use of the video monitoring system. You know, in the plainest of language, that the use of the monitoring system is not evidence of the defendant's guilt, and you should not think that the use of this system in the courtroom implies or suggests that the defendant is guilty. It is very important that you keep this in mind.

After viewing the trial, subjects indicated whether the defendant was guilty or not guilty, and rated the credibility of the child witness and the defendant on a variety of witness characteristics using 7-point Likert scales. The child witness was rated on the following characteristics: accuracy of memory (for sexual and nonsexual acts she described), knowledge of sexual genitalia, intelligence, ability to tell the difference between acts of fatherly love, (i.e., drying her off after a bath) and acts of sexual abuse, suggestibility, likelihood that she misinterpreted her father's behavior (i.e., applying medicine to her genital area to help with a rash), truthfulness of response in general, truthfulness of her testimony that her father hit her so hard she fell and hit her head on a coffee table—or was the truth her father's testimony on this point (he claimed that she fell off her bicycle and cut her head), believability in general, extent that the child fabricated the allegation, honesty, fear of testifying, likability, emotionality, confidence, fear of her father,

amount of influence her testimony had in their decision regarding the guilt of the defendant, general credibility, and the overall impression the child had made (positive or negative).

After rating the credibility of the child witness, subjects rated the defendant on a variety of characteristics: intelligence, consistency of testimony, accuracy of memory, truthfulness, believability in general (and in particular the father's claim that he put medicine on the daughter's vagina to help with a rash), credibility, confidence, likability, ability to be a good father, appropriateness of some of his fatherly actions, punitiveness as a father, whether he threatened the daughter if she testified, attractiveness, nervousness, influence of his testimony on decision of guilt/innocence, general impression at the beginning and end of the trial, and whether he had physically abused his daughter.

Procedure

Subjects were recruited to participate in a study on "psychology and the law." Each subject was shown one version of the videotaped trial in groups of 10–15, and 100 subjects were assigned to each condition. After watching the videotape, subjects indicated whether the defendant was guilty or not guilty, and rated the child witness and the defendant on a variety of dimensions of credibility. Subjects were debriefed after the ratings were completed.

Research Design

The design of the experiment is a 3 (modality of testimony: open court, shield, videotape) \times 2 (subject sex: male/female) completely randomized factorial design.

Results/Discussion

Conviction Rates

Does the presence of a protective device in the courtroom influence jurors' perceptions of the guilt of the defendant? As seen in Table 1, the modality of the child's testimony did not have a significant impact on conviction rates. In general, there was a 48.6% conviction rate (collapsed across the three experimental conditions), and the modality of the child's testimony had no impact on the subsequent outcome of the trial $\chi^2(2, N = 300) = .55, n.s.$ However, the gender of the juror did have a significant impact. Specifically, 58.6% of the female jurors voted

Table 1. Conviction Rates by Modality of the Child's Testimony

	Open court	Shield	Video
Guilty	51.0%	46.0%	49.0%
Not guilty	49.0%	54.0%	51.0%

guilty as compared with 38.6% of the male jurors $\chi^2(1, N = 300) = 11.94, p < .001$. Finally, males and females did not respond differently to the modality of the child's testimony $\chi^2(2, N = 300) = 1.77, n.s.$ These data were analyzed using a 3 (modality: open court, video, and shield) \times 2 (sex of subject) logistic regression.

Defendant Credibility

Does the modality in which a child testifies influence jurors' perceptions of the defendant's credibility? The answer to this question is no—the perceived credibility of the defendant did not differ across the three experimental conditions. The jurors' ratings of the defendant's credibility were analyzed with a 3 (modality) \times 2 (sex of juror) MANOVA. The main effect for modality was not significant, $F(46, 544) = .83, n.s.$, nor was the interaction between modality and sex of juror, $F(46, 544) = .81, n.s.$ There was, however, a significant main effect for sex of juror, $F(23, 272) = 1.91, p < .01$. As seen in Table 2, female subjects rated the defendant as less credible than male subjects.

Table 2. Mean Credibility Ratings of the Defendant by Sex of Subject

	Males	Females
Believe defendant's claim that he didn't hit his daughter	3.25	2.81*
Intelligence	4.68	4.78
Consistency of testimony	5.21	5.09
Accuracy of memory for specific acts that were alleged to be sexual abuse	5.23	5.22
Accuracy of memory in general	5.37	5.37
Truthfulness of defendant's testimony	4.03	3.35*
Believability of defendant as a witness	4.29	3.73*
Believe defendant put medicine on daughter's vagina to help with a rash	3.99	3.35*
General credibility as a witness	4.16	3.91
Confidence of defendant while testifying	4.37	4.15
How likable was the defendant	4.11	3.82*
Defendant's ability to be a good father	3.29	3.29
How inappropriate was it for the father to sleep nude with his daughter	1.87	1.52*
How strict was the defendant as a father	2.69	2.41*
Did defendant threaten daughter if she testified against them	3.74	3.13*
How attractive was the defendant	3.19	2.96**
Believe father's claim that his daughter needed his help to dry off after her bath	5.45	5.07*
How nervous was defendant when he testified	4.54	4.52
Extent defendant's testimony influenced verdict	4.91	5.25*
Impression of defendant when first took witness stand	3.86	3.78
Impression of defendant at the end of the trial	3.66	3.29*
Extent that defendant physically abused his daughter	3.33	3.03**
Extent that defendant received a fair trial	5.59	5.70

Note: Means with an * are statistically significantly different at the $p < .05$ level, whereas means with an ** approached statistical significance at the $p < .10$ level. Higher scores indicate more positive responses: Greater perceived confidence, intelligence, etc. Range of potential response was 1–7.

Credibility of the Child Witness

Does the modality in which a child testifies influence jurors' perceptions of the credibility of the child? Is there any evidence in support of the credibility inflation or credibility deflation hypotheses? Again, the answer is no—the modality in which the child testified had no impact on the perceived credibility of the child. The jurors' rating of the child's credibility were analyzed with a 3 (modality) \times 2 (sex of juror) MANOVA. The main effect for modality was not significant, $F(50, 540) = 1.31$, n.s., nor was there a significant interaction between modality and sex of juror, $F(50, 540) = .95$, n.s. However, the main effect for sex of juror was significant, $F(25, 270) = 2.94$, $p < .0001$. As seen in Table 3, female subjects rated the child witness as more credible than male subjects.

Experiment 1 examined whether the use of a protective device had an impact on jurors' conviction rates. No support was obtained for the hypothesis that jurors are more likely to convict a defendant or perceive the defendant negatively if a child testifies using a protective device versus testifying while directly confronting the defendant. Moreover, there was no support for the hypothesis that the use of a protective device would affect (increase or decrease) the perceived credibility of

Table 3. Mean Credibility Ratings of the Child Witness by Sex of Subject

	Females	Males
Accuracy of memory for specific acts claimed to be sexual abuse	5.87	5.21*
Accuracy of memory in general	5.77	5.35*
Did child know what her breast and vagina were	4.23	3.57*
Consistency of testimony	5.95	5.44*
Intelligence	5.35	4.97*
Ability to tell difference between acts of fatherly love and sexual abuse	4.93	4.20*
Suggestibility	3.73	3.07*
Extent child misinterpreted father's behavior as sexual abuse	5.14	4.19*
Truthfulness of the child's testimony	5.61	4.99*
Believe child's claim that her father hit her	5.45	5.09*
Ability to think, remember, and answer the questions asked by the lawyers	6.02	5.41*
Believability of child as a witness	5.67	5.19*
Extent that the child fabricated the allegation of sexual abuse	5.67	4.85*
Extent that child's inconsistent testimony influenced perceived honesty	4.54	4.45
Extent that child's inconsistent testimony influenced opinion that abuse occurred	4.77	4.21*
How frightened was the child while testifying	5.19	4.76*
Extent that child feared what her father would do if she testified against him	5.09	4.81**
How likable was the child witness	5.45	5.27
How emotional was the child witness when she testified	4.40	4.42
Confidence of the child while testifying	4.75	4.13*
Extent that the child feared her father in general	4.87	4.47*
Extent that the child's testimony influenced verdict	5.30	4.87*
Extent it was difficult for the child to testify against her father	5.49	5.31
General credibility as a witness	5.43	4.81*
General impression of the child	4.89	4.77

Note: Means with an * are statistically significantly different at the $p < .05$ level, whereas means with an ** approached statistical significance at the $p < .10$ level. Higher scores indicate more positive responses: Greater perceived confidence, intelligence, etc. Range of potential response was 1–7.

a child witness—at least using these stimuli and procedures. However, female subjects were significantly more likely than male subjects to convict the defendant and to perceive the child witness as more credible and the defendant as less credible.

Caution is warranted, however, before generalizing these findings. At least two possible explanations exist for the lack of modality effects in Experiment 1, and these are examined in Experiment 2. First, subjects completed the guilt and credibility ratings after having heard the testimony of all the witnesses in the trial. Therefore, the modality of the child's testimony could have had a large impact immediately after the child testified, but the effect was eliminated by the testimony of the other witnesses. A solution to this problem is to stop the videotape immediately after the child testified to examine the impact of the modality of the testimony without jurors' reactions being contaminated by the testimony of the other witnesses in the trial. This would be particularly effective because the child was the first witness to testify in the trial.

A second explanation centers on the implied guilt warning that was used in the shield and videotape condition. That is, just prior to the child testifying, the judge instructed the jurors that the use of the protective device should not be used to imply that the defendant is guilty. Perhaps this warning proved to be extremely effective and prevented jurors from inferring that the defendant is guilty because the child was being shielded or protected from the defendant. If the guilt warning were removed from the stimuli, perhaps then the use of the protective device would increase the likelihood of a conviction.

EXPERIMENT 2

Experiment 2 is similar to Experiment 1 with two exceptions. First, the sexual abuse trial was shown to subjects but it was stopped immediately after the child witness testified. Subjects were then asked to rate the guilt of the defendant, and the credibility of the child and the defendant. Second, we manipulated the presence and absence of the implied guilt warning in the shield and videotape condition.

Method

Subjects

A sample of 300 college students (150 males and 150 females) recruited from an introductory psychology class participated in the experiment. Most of the students were White and middle class.

Materials

Subjects watched the same experimental conditions (open court, shield, and videotape) used in Experiment 1, and the presence or absence of the implied guilty warning was varied in the shield and videotape condition. In each condition the

videotape was stopped immediately after the child witness testified. The child was the first and only witness who testified in the trial. After stopping the videotape, subjects were told that they were to make a judgment of guilt without seeing the rest of the trial. Before giving their verdict, however, subjects watched the judge read jury instructions that are provided prior to deliberation. After viewing these instructions, subjects indicated whether the defendant was guilty or not guilty, and rated the child on the credibility measures used in Experiment 1.

In addition, subjects rated the credibility of the defendant—even though they did not actually see the defendant testify. That is, subjects were told that “although you did not see Jonathan Archer (the defendant) testify, the following questions ask about any impression you may have formed of him. In particular, many of the questions ask you to think of what type of witness he would be if he testified in this trial.” Subjects then rated the defendant on the same credibility measures used in Experiment 1—except they based their judgments on initial impressions rather than having actually seen the defendant. For example, subjects were asked “How consistent would Jonathan Archer’s testimony be? That is, would he always tell the same story while testifying in court?” Whereas in Experiment 1 subjects were asked “How consistent was Jonathan Archer’s testimony? That is, did he always tell the same story while testifying in court?” As another example, subjects in Experiment 2 were asked, “To what extent would you believe Jonathan Archer if he testified that he put medicine on Debbie’s vagina to help her with a rash?” Whereas in Experiment 1 subjects were asked, “To what extent, did you believe Jonathan Archer when he said that he put medicine on Debbie’s vagina to help her with a rash?” Therefore, in Experiment 2 the same credibility ratings were given but the questions asked about the subjects’ expectations of the defendant’s credibility.

Procedure

Subjects were recruited to participate in a study on “psychology and the law.” Each subject watched one version of the videotaped trial in groups of 10–15, and 60 subjects were assigned to each condition (open court, shield with implied guilt warning, shield without implied guilt warning, videotape with implied guilt warning, and videotape without implied guilt warning). After the child witness testified, the videotape was stopped and subjects watched the judge read the charge and the instructions to the jury. Subjects then indicated whether they thought the defendant was guilty or not guilty, and rated the child witness and the defendant on the same dimensions of credibility used in Experiment 1. Subjects were debriefed after the ratings were completed.

Results

Preliminary Analyses: Collapsing across the Implied Guilt Warning Manipulation

Preliminary analyses revealed that the presence or absence of the implied guilt warning had no impact on conviction rates. In particular, a 2 (condition: shield and videotape) \times 2 (implied guilt warning: present and absent) logistic

regression analysis revealed nonsignificant main effects for condition, $\chi^2(1, N = 300) = .44$, n.s. and warning, $\chi^2(1, N = 300) = .44$, n.s., and a nonsignificant interaction between condition and warning, $\chi^2(1, N = 300) = .01$, n.s.. As a result, the data were collapsed across this variable within the shield and videotape condition. Therefore, the remaining analyses are reported using a 3 (modality of testimony: open court, shield, videotape) \times 2 (sex of subject: male/female) completely randomized factorial design.

Conviction Rates

In sharp contrast to Experiment 1, in Experiment 2 the modality of the child's testimony had a significant impact on conviction rates. As shown in Table 4, subjects in the open court condition were significantly more likely to convict the defendant than subjects in the videotape and shield condition.

A 3 (modality: open court, shield, and videotape) \times 2 (sex of subject) logistic regression analysis performed on the frequency of the guilty/not guilty verdicts revealed a main effect for modality that approached statistical significance, $\chi^2(2, N = 300) = 4.53$, $p < .10$. As seen in Table 4, the conviction rate in the open court condition (76.7%) is significantly greater than the conviction rate in the video condition (60.8%) $\chi^2(2, N = 180) = 4.51$, $p < .05$. Moreover, the conviction rate in the open court condition (76.7%) is greater than the conviction rate in the shield condition (65.0%), but this difference only approached statistical significance $\chi^2(1, N = 180) = 2.72$, $p < .10$. Therefore, the modality of the child's testimony had a significant impact on conviction rates whereby the use of a protective device (especially videotape) reduced the likelihood of a conviction.

In addition, the gender of the juror did not have a significant impact on conviction rates. Specifically, 66.6% of the female jurors voted guilty as compared with 64.6% of the male jurors, $\chi^2(1, N = 300) = .11$, n.s. Finally, males and females did not respond differently to the modality of the child's testimony, $\chi^2(2, N = 300) = 3.01$, n.s.

Defendant Credibility

Does the modality in which a child testifies influence jurors' perceptions of the defendant's credibility if the child is the only witness who testifies? As seen in Experiment 1, the answer to this question is no—the perceived credibility of the defendant did not differ across the three experimental conditions. In particular, a 3 (modality) \times 2 (sex of juror) MANOVA was performed on the jurors' ratings of the defendant's credibility. The main effect for modality was not significant, $F(44, 544) = .78$, n.s., nor was the interaction between modality and sex of juror, $F(44,$

Table 4. Conviction Rates by Modality of the Child's Testimony

	Open court	Shield	Video
Guilty	76.7%	65.0%	60.8%
Not guilty	23.3%	35.0%	39.2%

544) = .85, n.s. There was, however, a significant main effect for sex of juror, $F(22, 272) = 2.0, p < .01$. As found in Experiment 1, female subjects rated the defendant as significantly less credible than male subjects. Univariate analyses indicate significant main effects for sex of subject on the consistency of the testimony, $F(1, 293) = 7.27, p < .01$, accuracy of the memory for specific acts that were alleged to be sexual abuse, $F(1, 293) = 3.67, p < .05$, accuracy of memory in general, $F(1, 293) = 4.12, p < .05$, general credibility as a witness, $F(1, 293) = 5.10, p < .05$, likability, $F(1, 293) = 6.93, p < .01$, attractiveness $F(1, 293) = 10.1, p < .001$, and belief in the defendant's claim that his daughter needed his help to dry off after her bath, $F(1, 293) = 4.97, p < .05$. The univariate effects for the remaining credibility measures were not significant at the .05 level, but two of these measures, belief in the defendant's claim that he did not hit his daughter, $F(1, 293) = 2.62, p < .10$, and belief that the defendant threatened his daughter if she testified against him, $F(1, 293) = 2.63, p < .10$, approached statistical significance.

Child Witness Credibility

Does the modality in which a child testifies influence jurors' perceptions of the credibility of a child witness if the child is the only witness who testifies? Again, the answer is no—the modality in which the child testified had no impact on the perceived credibility of the child. In particular, a 3 (modality) \times 2 (sex of juror) MANOVA was performed on the jurors' rating of the child's credibility. The main effect for modality was not significant, $F(50, 538) = 1.14$, n.s, nor was the interaction between modality and sex of juror, $F(50, 538) = 1.1$, n.s. However, the main effect of sex of juror was significant, $F(25, 269) = 1.57, p < .05$. Similar to Experiment 1, female subjects rated the child witness as more credible than male subjects. Univariate analyses indicate significant main effects for sex of subject, consistency of testimony, $F(1, 293) = 4.31, p < .05$, intelligence, $F(1, 293) = 3.92, p < .05$, ability to answer the lawyers questions, $F(1, 293) = 8.42, p < .01$, how emotional the child was while testifying, $F(1, 293) = 7.25, p < .01$, and the extent that the child's testimony influenced the subject's verdict, $F(1, 293) = 9.58, p < .01$. The univariate effects for the remaining credibility measures were not significant at the .05 level, but two of these measures, accuracy of memory in general, $F(1, 293) = 3.52, p < .06$ and the ability to tell the difference between acts of fatherly love and sexual abuse, $F(1, 293) = 3.17, p < .07$, did approach statistical significance.

GENERAL DISCUSSION

The results of Experiment 2 indicate that mock jurors were less likely to convict the defendant when the child testified using a protective device—especially in the videotape condition. This suggests that the use of a protective device does not put the defendant at risk for higher conviction rates—the observed effect indicated just the opposite. In particular, the largest difference in conviction rates was between the videotape (60.8%) and the open court condition

(76.6%). One explanation for this effect is that seeing children testify through a video monitor is less persuasive because it is a less direct form of communication than being in the courtroom facing the defendant directly or from behind a shield.

These findings pose an interesting legal dilemma concerning how to ensure the psychological safety of the child without biasing the trial process against *any* of the parties involved—including the child witness. Thus far the concern with protective devices has focused on the defendant's Sixth Amendment Right and the Confrontation Clause. If protective devices reduce the likelihood of a conviction—this would suggest the presence of a bias that works against the prosecution and the child witness. This is an important legal dilemma given the increasing use of videotape testimony with children (Davies & Noon, 1991).

Comparing the findings from Experiment 1 and 2 indicates the importance of measuring jurors' reactions to a protective device throughout the course of the trial (see also Swim et al., in press). In Experiment 1 subjects watched the entire trial before making judgments of guilt and credibility, and the modality of the child's testimony had no impact on trial outcome. However, in Experiment 2 subjects' reactions to the modality of the testimony were taken immediately after the child testified, and it was found to have an effect on conviction rates. Therefore, if measurements are taken after all the testimony in the case is presented, the impact of the protective device may be eliminated. This was also observed in the study by Swim *et al.* (in press). Future research could examine what evidence is needed to increase, decrease, or maintain the influence a protective device has on perceptions of guilt throughout the course of a trial.

In addition, in Experiments 1 and 2 the modality of the child's testimony had little impact on the perceived credibility of the child witness or the defendant. In particular, there was no support for the credibility inflation or deflation hypotheses—at least in terms of the various measures of credibility taken. This was particularly surprising in Experiment 2 because the modality of the child's testimony influenced conviction rates, and thus one would expect a corresponding effect on the perceived credibility of the child and the defendant. Although this finding is counterintuitive, it is consistent with past jury research on child witnesses that finds little correspondence between perceptions of credibility of individual witnesses and conviction rates. For example, in a study by Ross, Dunning, Toglia, and Ceci (1990) the age of a witness (i.e., 8, 21, or 74 years of age) had a dramatic impact on jurors' perceptions of witness credibility, yet witness age had no impact on conviction rates. Similarly, in the study by Swim et al. (in press) subjects who watched a child testify through a video monitor had more proprosecution thoughts during the trial than subjects who watched the child testify in open court. However, the modality of the child's testimony had no impact on conviction rates for 3 of the 4 counts charged against the defendant. On the one count that the modality did influence the conviction rate, subjects in the videotape condition were less likely to convict the defendant than subjects in the open court condition. Thus the individual reactions subjects had to the modality of the child's testimony went in the opposite direction of their conviction rates. Examination of the relationship (or lack of it) between perceived credibility of the child witness and conviction rates is an interesting area for future research. See (Nightingale,

1993) for an examination of the factors influencing verdicts in cases that involve a child witness.

The experiments reported here are a first step in studying this important topic, and caution should be taken before generalizing these findings. Our findings need to be replicated with different stimuli, measures, subjects, and procedures to ensure that they are robust. Moreover, our findings are limited by the fact that in all three experimental conditions subjects watched a videotape presentation. This represents a substantial departure from what actual jurors experience, yet there does not appear to be a reasonable alternative that would correct for this problem. One could argue, however, that the results reported here may underestimate the impact a protective device has on the judicial process because watching a child in a real courtroom testifying behind a shield or through a video monitor would be more dramatic and influential than watching a videotape recreation.

In sum, the research reported here is in its infancy, and a great deal more research is needed before we can predict how protective devices influence the judgments made by real jurors. However, the research to date indicates that the use of a protective device in trials of child sexual abuse do not pose a threat to the defendant's Sixth Amendment right to confrontation—at least in terms of increasing the probability of a conviction.

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