From the Shadows Into the Light: How Pretrial Publicity and Deliberation Affect Mock Jurors' Decisions, Impressions, and Memory

Christine L. Ruva
University of South Florida Sarasota-Manatee

Christina C. Guenther
University of South Florida Tampa

This 2-part study explored how exposure to negative pretrial publicity (Neg-PTP) influences the jury process, as well as possible mechanisms responsible for its biasing effects on decisions. Study Part A explored how PTP and jury deliberations affect juror/jury verdicts, memory, and impressions of the defendant and attorneys. One week before viewing a criminal trial mock-jurors ($N = 320$ university students) were exposed to Neg-PTP or unrelated crime stories (No-PTP). Two days later deliberating jurors came to a group decision, whereas nondeliberating jurors completed an unrelated task before making an individual decision. Neg-PTP jurors were more likely to vote guilty, make memory errors, and rate the defendant lower in credibility. Deliberation reduced Neg-PTP jurors' memory accuracy and No-PTP jurors' guilty verdicts (leniency bias). Jurors' memory and ratings of the defendant and prosecuting attorney significantly mediated the effect of PTP on guilt ratings. Study Part B content analyzed 30 mock-jury deliberations and explored how PTP influenced deliberations and ultimately jury decisions. Neg-PTP juries were more likely than No-PTP juries to discuss ambiguous trial evidence in a proprosecution manner and less likely to discuss judicial instructions and lack of evidence. All Neg-PTP juries mentioned PTP, after instructed otherwise, and rarely corrected jury members who mentioned PTP. Discussion of ambiguous trial evidence in a proprosecution manner and lack of evidence significantly mediated the effect of PTP on jury-level guilt ratings. Together the findings suggest that judicial admonishments and deliberations may not be sufficient to reduce PTP bias, because of memory errors, biased impressions, and predecisional distortion.

Keywords: collaborative memory, juror decision making, jury deliberation, source memory

Supplemental materials: http://dx.doi.org/10.1037/lhb0000117.supp

Although there have been many studies conducted on juries, very few studies have been dedicated to the actual deliberation process and the effects this process may have on verdicts (Devine, Buddenbaum, Houp, Studebaker, & Stolle, 2009). There are many factors that can affect the deliberation process and the resulting verdict, one of which is pretrial publicity (PTP; Ruva & LeVasseur, 2012). Even after many decades of research on juror/jury decision making, the effects of PTP on *deliberating* jurors are still unclear (Daftary-Kapur, Dumas, & Penrod, 2010). Previous research has found that PTP imparts its biasing effects on jurors' decisions by influencing their perceptions of the defendant's credibility and their ability to discriminate the source of case information (PTP vs. trial; Ruva & McEvoy, 2008; Ruva, McEvoy, & Bryant, 2007), as well as eliciting emotional responses in jurors (Kramer, Kerr, & Carroll, 1990; Ruva, Guenther, & Yarbrough, 2011), and causing predecisional distortion (Hope, Memon, & McGeorge, 2004; Ruva, Mayes, Dickman, & McEvoy, 2012).

Although there is some understanding as to how PTP influences decisions of individual jurors, how differences in exposure to PTP translate to the group process is still relatively unknown. The present research explored this group process, along with a number of mechanisms that may be responsible for PTP's biasing effect on juror and jury decisions.

Mechanisms Responsible for PTP Bias

We begin by examining how jurors' impressions of defendants and attorneys are affected by PTP exposure and whether these impressions mediate the effect of PTP on juror decisions. We then explore whether deliberations increase (group polarization) or reduce (leniency bias) juror bias. Finally, we explore jurors' source memory errors, the effects of deliberation on them, and whether they are mechanisms through which PTP imparts it biasing effects on decisions.

Impression Formation

Pretrial publicity may affect jurors' decisions by biasing their opinions of defendants and attorneys. Research has shown that jurors exposed to negative PTP view the defendant as less credible than jurors who are not exposed to PTP (Dexter, Cutler, & Moran, 1992; Otto, Penrod, & Dexter, 1994). Importantly, defendant credibility has been found to mediate the effect of negative PTP on

guilt ratings (Ruva & McEvoy, 2008; Ruva et al., 2007). Ruva and McEvoy (2008) found that jurors exposed to PTP rated the prosecutor higher and the defense attorney lower on overall ability and likability than jurors not exposed to PTP. In addition, these attorney ratings significantly mediated the effects of PTP on guilt ratings. The story model (Pennington & Hastie, 1988, 1993) may explain these findings, in that jurors are likely to use PTP information as a framework for analyzing trial evidence and to fill trial story gaps. Using PTP in this way is likely to result in PTP-exposed jurors viewing the prosecution's story as being more coherent and credible than the defense story, and ultimately viewing the defense attorney as less credible and the prosecutor as more credible than jurors not exposed to PTP.

Group Polarization

Jury deliberation, as assumed by the courts, enables jurors to correct errors, reject irrelevant information, and control biases (Bourgeois, Horowitz, ForsterLee, & Grahe, 1995; Studebaker & Penrod, 1997). However, research has found that group deliberation accentuates biases held by a majority of group members (Hinsz, Tindale, & Vollrath, 1997; Kramer et al., 1990; Zuber, Crott, & Werner, 1992). This results in the responses of groups being more extreme than those of individuals, or *group polarization* (Moscovici & Zavalloni, 1969). Kerr, Niedermeier, and Kaplan (1999) found that for moderate cases (moderate conviction rate) deliberation accentuated PTP bias (group polarization), whereas in extreme cases (overwhelming conviction or acquittal rates) deliberation attenuated PTP bias. Importantly, moderate cases are more likely to go to trial (Boyll, 1991), suggesting that deliberation is likely to accentuate PTP bias in actual juries. What mechanisms are responsible for these polarization effects? According to persuasive arguments theory (Vinokur & Burstein, 1974), polarization effects are attributable to jurors spending more time discussing, and making better arguments for, the side they prefer (prosecution vs. defense), which was explored in the present study.

Leniency Bias

In contrast to group polarization, deliberation may affect jurors' decisions by resulting in a leniency bias in which jurors are less likely to vote guilty after deliberation than before (see Stasser, Kerr, & Bray, 1982 for review). One explanation for the leniency bias is that during jury deliberations the defendant protection norm and reasonable doubt standard are highlighted (Kerr, 1993; Waters & Hans, 2009). The leniency bias is most likely to be found in trials that are ambiguous as to guilt (MacCoun & Kerr, 1988; Tanford & Penrod, 1986). When there is a strong majority favoring guilt during the first straw poll, as is likely when jurors are exposed to negative PTP (Ruva & LeVasseur, 2012), a leniency bias is unlikely (Devine et al., 2004; MacCoun & Kerr, 1988).

Source Memory

Source memory (SM) errors, in which jurors misattribute PTP information to the trial, may be partially responsible for deliberations ineffectiveness in reducing PTP bias (Ruva & McEvoy, 2008). Ruva et al. (2007) found that mock jurors had good memory for both PTP and trial information, but with high confidence

believed that the PTP information was also presented at trial. These critical SM errors mediated the effect of PTP on guilt ratings. Source memory tasks of actual jurors, as compared with mock-jurors, may prove more difficult due to the delay between evidence presented early in trial and jury deliberations. A time delay between encoding and retrieval of information has been shown to increase SM errors (Frost, Ingraham, & Wilson, 2002; Hekkanen & McEvoy, 2005). Ruva and McEvoy (2008) found that mock jurors who experienced a delay between PTP and trial exposure, and then an additional delay between trial exposure and completing the SM test, made three times more SM errors than those who did not experience a delay after viewing the trial.

How might deliberation affect jurors' source memory? Groups are thought to be advantageous over individuals because of their larger collective memory (Warnick & Saunders, 1980; Weldon & Bellinger, 1997) and the presumption that they will correct individual memory errors (Hinsz, 1990; Pritchard & Keenan, 2002). Supporting research has found that mock jurors recalled trial facts better in groups than individually (Vollrath, Sheppard, Hinsz, & Davis, 1989) and individual jurors were more accurate on post-versus predeliberation memory tests (Pritchard & Keenan, 2002).

In contrast, research on collaborative memory reveals that collaboration may increase memory errors (Basden, Basden, Bryner, & Thomas, 1997; Basden, Basden, Thomas, & Souphasith, 1998). Collaborating groups may produce more erroneous information because individuals lower their response thresholds as a result of feeling obligated to contribute to the group process (Basden et al., 1998) or fail to correct individuals who make errors, allowing for discussion of inaccurate or forbidden topics (e.g., PTP; Ruva & LeVasseur, 2012). Finally, collaboration has been shown to increase confidence in both correct and incorrect memory judgments (Clark, Stephenson, & Kniveton, 1990; Stephenson & Wagner, 1989). The current study explored the effects of PTP and deliberation on source memory implementing a time delay between PTP and trial, as well as between trial and jury deliberations.

Present Study

The discussion of the present study's methods and findings are divided into two sections: Study Part A and Part B. Study Part A explored how PTP and deliberation affect juror/jury decisions, impressions of the defendant and attorneys, source memory, and whether a leniency bias and/or polarization effects occurred. Study Part B explored how PTP affects the deliberation process and whether the differences in decisions between PTP conditions observed in Study Part A could be explained by the differences observed in their deliberations. For this study mock-juror participants were exposed to either negative PTP (Neg-PTP) or unrelated crime stories (No-PTP). One week later they viewed a murder trial. Two days after the trial jurors rendered individual verdicts (predeliberation) and were randomly assigned to either nominal (nondeliberating) or deliberating groups. Deliberating groups were given 30 minutes to reach a unanimous verdict, whereas nominal groups completed an unrelated task and provided a second individual verdict. All jurors then completed the source memory test, defendant credibility and attorney rating questionnaire, and provided a final individual verdict (postsource memory).

Study Part A

Six hypotheses were developed based on the research and theory presented above

1. We expected PTP to have a significant main effect on *individual* mock-jurors' predeliberation and postsource memory verdicts and guilt ratings. Specifically, jurors exposed to Neg-PTP would be more likely to vote guilty and provide higher guilt ratings than No-PTP jurors.

2. We expected the main effect of PTP on postsource memory *individual* guilt measures to be qualified by a significant PTP × Deliberation interaction. After deliberations, we expected the No-PTP jurors who deliberated to provide fewer guilty verdicts and lower guilt ratings than their nominal counterparts, thus demonstrating a *leniency bias*. After deliberations, we expected Neg-PTP jurors who deliberated to be more likely to vote guilty and provide higher guilt ratings than their nominal counterparts, thus demonstrating *polarization* of PTP bias.

3. At the jury-level, we expected that PTP would have a significant main effect on verdicts and guilt ratings. Juries exposed to Neg-PTP would be more likely to vote guilty and provide higher guilt ratings than No-PTP juries.

4. We also expected PTP to significantly affect jurors' postdeliberation ratings of the defendant and attorneys. When compared with No-PTP jurors, those exposed to Neg-PTP would provide lower defendant credibility and defense attorney ratings and higher prosecuting attorney ratings. In addition, we expected deliberation to significantly affect defendant credibility ratings of Neg-PTP jurors, with deliberating jurors rating the defendant lower in credibility than nominal jurors.

5. We expected exposure to Neg-PTP to have a significant main effect on jurors' critical SM errors (misattributing PTP information to the trial) and correct trial judgments (attributing trial information to the trial). Jurors exposed to Neg-PTP will make more critical SM errors and fewer correct trial judgments than No-PTP jurors. We expected the main effect of PTP to be qualified by a significant PTP × Deliberation interaction. Specifically, deliberation would increase critical SM errors and reduce trial correct judgments of only the Neg-PTP jurors.

6. We expected critical SM errors, defendant credibility, and prosecuting attorney ratings to significantly mediate the effect of PTP on postsource memory individual guilt ratings. Specifically, lower defendant credibility and greater attorney ratings and SM errors will result in higher guilt ratings.

Method

Participants. The participants were a convenience sample of 320 university students recruited through an online recruitment tool. These students were enrolled in freshman to senior level psychology courses and received course credit for participation. There were 97 (30%) males and 223 (70%) females ranging in age from 18 to 51 years ($M = 20.09$ years, $SD = 3.85$). One hundred seventy-eight (56%) were Caucasian, 73 (23%) were African American, 43 (13%) were Hispanic, 25 (8%) were Asian or Pacific Islander, and 1 (.003%) denoted as other.

Design. This experiment utilized a 2 (PTP: Neg-PTP vs. No-PTP) × 2 (deliberation: deliberating vs. nominal) design. Before the first phase of the experiment jury groups were randomly assigned to PTP conditions. Deliberating jurors in a particular jury group attended all three experimental sessions together, minus those lost to attrition.[1] At the beginning of Phase 3, all jurors were randomly assigned to either deliberating or nominal conditions. After rendering predeliberation individual verdicts, jurors were physically placed (2 separate rooms) into deliberating or nominal groups. Nominal groups worked alone on all experimental tasks, whereas deliberating groups made a group decision regarding defendant guilt. There were a total of 60 mock-jury groups, resulting in 15 mock-juries per condition. Nominal juries were created for data analysis purposes which consisted of randomly assigning nominal jurors to juries after data collection was completed. The majority ($n = 27$) consisted of 5 jurors, and the remaining three consisted of 4 jurors. For these nominal Groups 75 mock-jurors were exposed to Neg-PTP and 72 were not exposed to PTP. Each *deliberating jury* consisted of 5 ($n = 7$) to 6 ($n = 23$) mock-jurors, with 87 mock-jurors exposed to Neg-PTP and 86 not exposed to PTP.

Trial. The trial stimuli consisted of 30 minutes of actual video footage from a real murder trial in which a man is accused of murdering his wife (*NJ v. Bias*, 1991). He claimed that the gun accidentally fired while he attempted to prevent his wife's suicide. The trial video included opening and closing arguments, direct and cross-examinations of prosecution and defense witnesses, and judicial instructions. Based on past research this trial was determined to be ambiguous as to guilt and realistic (Hope et al., 2004; Pritchard & Keenan, 1999, 2002).

Pretrial publicity. Participants in both PTP conditions received nine news stories (10 pages of text). The Neg-PTP participants read actual PTP surrounding the *NJ v. Bias* trial that was modified for the experiment. These stories included not only general information about the case, but also information that could have a biasing effect on juror verdicts. Participants in the No-PTP condition read actual news articles involving an unrelated crime in which a woman was accused of embezzling child support funds.

Personality measures. Before reading the PTP, participants completed four individual difference measures: (a) Cacioppo, Petty, and Kao's (1984) Need for Cognition, (b) Cheek's (1983; modified from Cheek & Buss, 1981) Shyness and Sociability, (c) The Nowicki-Stricland Locus of Control (Nowicki & Duke, 1983), and (d) Wrightsman's (1974) Revised Philosophies of Human Nature. These scales were administered for the purpose of providing a cover story for why participants were reading the PTP, and were not analyzed for this study.

---

[1] Thirty-nine (11% attrition rate) participants were lost to attrition. This loss occurred at approximately equal rates for Neg-PTP ($n = 21$) and No-PTP ($n = 18$) conditions.

Verdicts. Verdicts (*not guilty* = 1, *hung* = 2, or *guilty* = 3; the *hung* option was only available for jury verdicts) and confidence in verdicts (ranging from 1 = *not at all confident* to 7 = *completely confident*) were acquired from participants three times during the experiment: (a) predeliberation individual verdicts, (b) postdeliberation jury/group verdicts, and (c) postsource memory individual verdicts.

Guilt ratings. Guilt ratings were calculated based on verdict and confidence in verdicts, resulting in a 14-point scale: 1 = *extremely confident in a not guilty verdict* to 14 = *extremely confident in a guilty verdict*. When the jury verdict was *hung* or the jury was *nominal,* each juror provided an individual verdict and confidence rating and the group (postdeliberation) guilt rating was the mean of the individual guilt ratings.

Source monitoring test. Participants completed a SM test in which they indicated where a particular statement appeared in the experiment. The options were trial, news stories, both trial and news stories, or new (did not appear in the experiment). The SM test consisted of 50 items: 17 trial facts, 16 PTP facts, 6 unrelated news facts, and 11 new facts. Each item received a SM judgment and a confidence rating ranging from 1 (*not at all confident*) to 7 (*extremely confident*) in the SM judgment. The proportion of critical source monitoring errors (PTP items misattributed to trial or both the trial and PTP) was calculated for each participant and then corrected for guessing by subtracting from this score the proportion of new items identified as either being in the trial or in both the trial and the PTP. Similarly, to control for guessing, the proportion of accurate trial judgments was corrected by subtracting the proportion of new items identified as being in the trial. These corrected SM scores were used in all SM analyses. Below we provide an example of how these corrected scores were calculated:

Corrected Proportion Trial Correct

$$= (\text{Trial attributed to Trial}) - (\text{New attributed to Trial})$$

Corrected Proportion Trial Correct

$$= (.80_{\text{Trial to Trial}}) - (.05_{\text{New to Trial}}) = .75.$$

Defendant credibility and attorney ratings. The defendant's credibility was measured using 11 items with 10 scored on a 7-point Likert scale and one on an 11-point scale. All items were converted to 10-point scales for data analyses purposes by dividing each response by the number of points on the specific item's scale and then multiplying by 10. For example, a rating of 7 on a 7-point Likert scale would result in a score of 10 (7/7 × 10 = 10). Thus, the possible total score on this scale ranges from 15.20 to 110. Specific attributes assessed were memory accuracy, confidence, testimony consistency, bias, and honesty. This scale has been found to have high internal consistency (Ruva & Bryant, 2004; Ruva & McEvoy, 2008) and in the present study had a Cronbach's alpha of .83, demonstrating good internal consistency. The attorney rating scale consisted of six items (three for the defense and three for the prosecution) that rated the performance of the attorneys on a 7-point Likert scale (possible scores range = 3 to 21). Specific attributes assessed were ability as an attorney, how well he or she performed his or her job, and likability. Cronbach's alpha was .74 for both the prosecuting and defense attorney scales, demonstrating good internal consistency.

Procedure. This experiment consisted of three phases.

First phase. At the beginning of Phase 1, participants were provided with the cover story that the researchers were interested in the stability of emotional reactions to crime stories. This was done because at the time of PTP exposure actual jurors are not aware that they will act as jurors. After completing the informed consent process, participants completed personality tests, read either the negative PTP or unrelated news stories, and then were given 15 minutes to freely recall as much information as they could about these news stories. Participants were then asked to review their recalls and provide a single word which best represented the emotional response they experienced when reading each complete thought or statement recalled. The recall and emotional response tasks were completed to ensure that participants read the crime stories and provided a rehearsal that might mimic a person informing another of what he or she had read.

Second phase. Approximately one week after PTP exposure, participants returned to the lab and were instructed to "act as if you are a juror in the actual trial we are about to present." The participants then viewed the videotaped trial concluding with the following judicial instructions from the judge: "If you are not satisfied beyond a reasonable doubt that the defendant did in fact cause the victim's death, or that the defendant acted purposely or knowingly, then you must find the defendant not guilty of murder." It should be noted that the defense and prosecuting attorneys also brought up elements of reasonable doubt during the trial.

Third phase. Phase 3 commenced two days after viewing the trial at which time the mock-jurors were randomly assigned to either deliberating or nominal conditions. Before providing predeliberation verdicts and confidence ratings, jurors were given the following instructions: "During the first phase of the study you may have read crime stories related to the trial that you viewed during Phase 2. Like actual jurors you are not to use any of this prior information when making decisions about the defendant's guilt. For this decision you must only use the evidence presented at trial." Once these predeliberation measures were collected, the nominal and deliberating jurors were placed in separate rooms.

Deliberating mock-jurors were given 30 minutes to deliberate and told that they needed to come to a unanimous verdict decision and if they were unable to do so they would be considered hung and a mistrial would result. The jury was given a verdict form and informed that they would receive a 5-min warning. If the jury had not reached a unanimous decision at the 5-min warning, they were instructed to try their best within the next 5 minutes. These jury deliberations were videotaped for content analysis purposes.

A 25-min delay was instituted for the nominal jurors, while the other jurors deliberated. This was done to ensure that the time between predeliberation and postdeliberation verdicts and measures was equivalent for nominal and deliberating groups. The nominal jurors were instructed not to talk with one another and were offered magazines to read (e.g., travel, music, food) during this delay. After this delay, they individually completed a verdict form that was identical to the deliberation verdict form, minus the hung option.

Once the verdict forms were collected, jurors in both the deliberating and nominal conditions individually completed the SM test and the defendant credibility and attorney rating scales. Participants were then asked for their verdicts and confidence

ratings. Before leaving participants completed a debriefing questionnaire, were asked if they had questions about the study, were provided information regarding the purpose of the study, and were instructed not to discuss the details of the study with others.

Results

Statistical analyses. The alpha level for significance for all analyses was .05. Hypotheses involving *predeliberation* individual *verdicts* were tested with 2 (PTP: Neg-PTP vs. No-PTP) × 2 (deliberation: deliberating vs. nominal) loglinear ANOVA, which uses the test statistic chi-square instead of *F*. Predeliberation (juror) guilt ratings were analyzed with a 2 (PTP) × 2 (deliberation) ANOVA. For analyses involving *postsource memory* individual guilt ratings, SM tests, defendant credibility, and attorney ratings we used 2 (PTP) × 2 (deliberation) hierarchical ANOVAs (jurors nested within juries; Kenny & Judd, 1986), when the effect of jurors nested in juries was significant. The *postsource memory* individual *verdicts* were analyzed with logistic hierarchical linear modeling (HLM), with jurors nested within juries (Raudenbush & Bryk, 2002; Singer, 1998). For these HLM analyses, PTP conditions were dummy coded so that *No-PTP* = 0 and *Neg-PTP* = 1, as were deliberation conditions (*nominal* = 0 and *deliberating* = 1). For both loglinear and GLM ANOVAs, contrast tests were used for follow-up analyses. Effect sizes are reported as omega squared (ω^2) for ANOVAs and as Cramer's *V* for chi-squares.

The jury-level (postdeliberation) *verdicts* of deliberating juries were analyzed using chi square. The jury-level *guilt ratings* for deliberating and nominal juries were analyzed using a 2 (PTP) × 2 (deliberation) ANOVA. For deliberating juries that reached consensus the jury-level guilt rating was used, whereas the mean of individual jurors' guilt ratings were used for nominal and hung juries.

Hypotheses 1 and 2: Individual-level verdicts and guilt ratings. Verdicts and guilt ratings were measured three times: (a) individual juror guilt measures before deliberations (predeliberation), (b) jury guilt measures (postdeliberation), and (c) individual guilt measures after deliberations (postsource memory).

Predeliberation verdicts and guilt ratings. A 2 (PTP) × 2 (deliberation) loglinear ANOVA revealed that before deliberations individual mock-jurors exposed to Neg-PTP were significantly more likely to vote guilty than mock-jurors in the No-PTP condition (see first column panel of Table 1), χ^2 (1, $n = 320$) = 13.64, $p < .001$, $V = .21$, 95% CI [0.09, 0.32]. Consistent with verdict results, Neg-PTP jurors had significantly higher *guilt ratings* than jurors not exposed to PTP (see first column panel of Table 1), $F(1, 316) = 21.01$, $MSE = 18.56$, $p < .001$, $\omega^2 = .06$, 95% CI [0.02, 0.12]. The main effect of deliberation and the PTP × deliberation interaction did not significantly affect verdicts or guilt ratings.

Postsource memory verdicts. A fixed effects Logistic HLM, with jurors nested within juries (Singer, 1998), was performed to assess the effect of PTP and deliberation on *individual verdicts* after deliberations (postsource memory; see second column of Table 1). The first model tested was the Level 1 or one-way ANOVA model with random effects (Raudenbush & Bryk, 2002). It explored how much the juries varied in their postsource memory verdicts (coded 1 = *not guilty* and 2 = *guilty*). This model is represented in the following equation: $Verdict_{ij} = \gamma_{00} + u_{0j} + r_{ij}$. The fixed effect of jury was significant, $\hat{\gamma}_{00} = -0.49$, $SE = 0.23$, $t(59) = -2.14$, $p = .036$. Given the binary verdict results and logistic distribution, the intraclass correlation for the effect of jury on verdict was calculated using the following formula (from Snijders & Bosker, 1999):

$$\hat{p} = (\hat{\tau}_{00}^2 + 3.29) = (2.03)/(2.03 + 3.29) = .38$$

Thus, 38% of the variance in juror verdicts is attributable to jury characteristics.

The significant fixed effect of jury and the ICC of .38 in Model 1 suggested that HLM analyses were appropriate for postsource memory individual verdicts. Therefore, for Model 2 we entered in the random effect of jurors nested within juries and the jury-level fixed effects of PTP, deliberation, and PTP × deliberation. The equation for Model 2 appears below:

$$Verdict_{ij} = (\gamma_{00} + \gamma_{01}W_{1j} + \gamma_{02}W_{2j} + \gamma_{30}W_{1j}W_{2j}) + (r_{ij} + u_{0j})$$

The intercept was significant for verdicts, $\hat{\gamma}_{00} = -1.44$, $SE = 0.45$, $t(56) = -3.24$, $p = .002$. The fixed effects of PTP and the

Table 1

Means and Frequencies for Pre-Deliberation and Post-Source Memory Juror-Level Guilt Measures

Condition	n	Pre-deliberation individual		Post-source memory individual	
		Guilty verdicts	Guilt rating	Guilty verdicts	Guilt rating
Deliberating	173	115 (66%)	9.67 (4.45)	94 (54%)	8.79 (4.42)
Nominal	147	95 (64%)	9.37 (4.47)	98 (67%)	9.59 (4.28)
Neg-PTP	162	122 (75%)	10.65 (3.99)	121 (75%)	10.59 (3.92)
No-PTP	158	88 (56%)	8.38 (4.63)	71 (45%)	7.68 (4.32)
Deliberating Neg-PTP	87	69 (79%)	11.15 (3.60)	67 (77%)	10.93 (3.68)
Deliberating No-PTP	86	46 (53%)	8.17 (4.74)	27 (31%)	6.62 (4.05)
Nominal Neg-PTP	75	53 (71%)	10.08 (4.35)	54 (72%)	10.20 (4.17)
Nominal No-PTP	72	42 (58%)	8.63 (4.51)	44 (61%)	8.94 (4.32)

Note. Neg-PTP = negative pretrial publicity. Percentages for guilty verdicts appear in parentheses next to their respective frequencies. Standard deviations appear in parentheses next to their respective means. The *n* column indicates the number of individual jurors in that condition. Guilt ratings ranged from 1 (*not guilty and completely confident*) to 14 (*guilty and completely confident*).

interaction of PTP $\times$ deliberation were significant, $\hat{\gamma}_{01} = 2.41$ and $\hat{\gamma}_{03} = -1.90$, SEs = 0.62 and 0.85, ts(56) = 3.92 and -2.24, ps = .001 and .03, indicating that the intercepts and the slopes for verdicts, as a function of deliberation, are different for PTP exposed and No-PTP jurors. As can be seen in the second column panel of Table 1, the postsource memory verdicts of Neg-PTP jurors differ little as a function of deliberation. For the No-PTP jurors, those in the nominal condition were almost twice as likely to vote guilty as those in the deliberating condition. Once again the intraclass correlation was calculated using the following formula:

$$\hat{p} = (\hat{\tau}_{00}^2)/(\hat{\tau}_{00}^2 + 3.29) = (1.54)/(1.54 + 3.29) = .32$$

Postsource memory guilt ratings. A 2 (PTP) $\times$ 2 (deliberation) hierarchical ANOVA revealed that both the main effect of PTP and the PTP $\times$ deliberation interaction had significant effects on postsource memory individual guilt ratings (see second column panel of Table 1), Fs(1, 60) = 19.61 ($p < .001$) and 5.38 ($p = .02$), MSEs = 34.53, ω^2s = .11 and .03, 95% CIs [0.05, 0.17] and [0.01, 0.08]. Similar to the verdict analyses, deliberation only had a significant effect on No-PTP jurors, with deliberating jurors having significantly lower guilt ratings than their nominal counter parts, F(1, 30) = 5.45, MSE = 38.99, $p = .03$, ω^2 = .06, 95% CI [0.01, 0.16]. These analyses, along with the HLM analyses above, suggest that the No-PTP jurors who deliberated demonstrated a leniency bias in which deliberation lowered guilt ratings and the propensity for voting guilty. Neg-PTP jurors who deliberated did not demonstrate a leniency bias. The reason for this difference may be a function of differences in the deliberations of Neg-PTP and No-PTP jurors, and this will be explored in Study Part B. Finally, contrary to our expectations, deliberations did not result in a polarization of PTP bias for these guilt measures.

Hypothesis 3: Jury-level verdicts and guilt ratings. Chi-square analysis revealed that for *deliberating* juries, those exposed to Neg-PTP were more likely to vote guilty than those not exposed to PTP (see Table 2), χ^2 (1, $n = 30$) = 9.93, $p = .007$, $V = .58$, 95% CI [0.25, 0.65].

PTP also had a significant effect on guilt ratings of *nominal* and *deliberating* juries (see Table 2), F(1, 56) = 18.51, MSE = 6.81, $p < .001$, ω^2 = .21, 95% CI [0.06, 0.39]. This main effect of PTP was qualified by a significant PTP $\times$ Deliberation interaction, F(1, 56) = 4.95, MSE = 6.81, $p = .03$, ω^2 = .05, 95% CI [0.00, 0.20].

Contrast tests revealed that deliberation only had a significant effect on No-PTP juries' guilt ratings, with *deliberating* juries having lower guilt ratings than their *nominal* jury counterparts (see Table 2), F(1, 56) = 6.92, MSE = 6.81, $p = .01$, ω^2 = .07, 95% CI [0.01, 0.24]. Consistent with the postsource memory individual analyses, jury-level guilt ratings suggest a leniency bias for the No-PTP juries and the lack of a polarization effect for Neg-PTP juries.

Hypothesis 4: Defendant credibility ratings. Hierarchical ANOVAs revealed that jurors exposed to Neg-PTP viewed the defendant as less credible than No-PTP jurors (see Table 3), F(1, 60) = 14.88, MSE = 286.31, $p < .001$, ω^2 = .07, 95% CI [0.02, 0.13]. However, deliberation was not found to have a significant main or interaction effect on jurors' perception of the defendant's credibility (see Table 3), Fs(1,60) = 2.82 and 0.01, MSE = 286.31, ps = .10 and .94.

Hypothesis 4: Attorney ratings. As expected Neg-PTP jurors rated the prosecuting attorney higher and the defense attorney lower than No-PTP jurors (see Table 3), Fs(1,60) = 15.12 and 11.13, MSEs = 23.14 and 19.42, ps < .001, ω^2s = .06 and .04, 95% CI [0.02, 0.12] and [0.01, 0.10]. In addition, deliberating jurors rated the prosecuting and defense attorneys significantly lower than nominal jurors (see Table 3), Fs(1,60) = 4.23 and 7.83, MSEs = 23.14 and 19.42, ps = .04 and .01, ω^2s = .02 and .03, 95% CIs [0.01, 0.06] and [0.01, 0.08]. The main effects of PTP and deliberation on prosecuting attorney ratings were qualified by a significant PTP $\times$ Deliberation interaction, F(1, 60) = 4.05, MSE = 23.14, $p = .049$, ω^2 = .02, 95% CI [0.01, 0.06]. Follow-up tests revealed that PTP had a significant effect on prosecution attorney ratings for deliberating jurors (see Table 3), F(1, 30) = 12.52, MSE = 32.98, $p = .001$, ω^2 = .07, 95% CI [0.03, 0.13], but not for nominal jurors, F(1, 30) = 2.32, MSE = 13.29, $p = .14$. In addition, deliberation only had a significant effect on prosecution ratings for the No-PTP jurors, with deliberating jurors rating the attorney lower than nominal jurors (see Table 3), F(1, 30) = 10.53, MSE = 17.94, $p = .003$, ω^2 = .03, 95% CI [0.01, 0.08]. In contrast, deliberation only had a significant effect on defense attorney ratings for Neg-PTP jurors, with deliberating jurors rating the defense attorney lower than nominal jurors (see Table 3), F(1, 60) = 6.36, MSE = 19.42, $p = .02$, ω^2 = .02, 95% CI [0.01, 0.07].

Table 2
Means and Frequencies for Post-Deliberation Jury-Level Guilt Measures

Condition	n	Not guilty verdicts	Hung verdicts	Guilty verdicts	Guilt rating
Deliberating	30	12 (40%)	7 (23%)	11 (37%)	8.39 (3.91)
Nominal	30	N/A	N/A	N/A	9.39 (1.85)
Neg-PTP	30	N/A	N/A	N/A	10.34 (2.58)
No-PTP	30	N/A	N/A	N/A	7.44 (2.86)
Deliberating Neg-PTP	15	2 (13%)	4 (27%)	9 (60%)	10.58 (3.35)
Deliberating No-PTP	15	10 (67%)	3 (20%)	2 (13%)	6.19 (3.17)
Nominal Neg-PTP	15	N/A	N/A	N/A	10.09 (1.56)
Nominal No-PTP	15	N/A	N/A	N/A	8.69 (1.90)

Note. Neg-PTP = negative pretrial publicity. Percentages for verdicts appear in parentheses next to their respective frequencies. Standard deviations appear in parentheses next to their respective means. The *n* column indicates the number of juries per condition. Given that nominal jurors did not provide group-level verdicts, N/A is indicated in the cells that include these conditions. Guilt ratings ranged from 1 (*not guilty and completely confident*) to 14 (*guilty and completely confident*).

Table 3
Mean Ratings for Defendant Credibility and Prosecution and Defense Attorneys

Condition	n	Defendant credibility	Prosecution rating	Defense rating
Deliberating	173	52.68 (14.23)	12.77 (4.01)	11.47 (3.76)
Nominal	147	55.87 (13.76)	13.88 (4.12)	12.86 (3.83)
Neg-PTP	162	50.55 (12.03)	14.32 (3.95)	11.47 (3.76)
No-PTP	158	57.83 (15.10)	12.22 (3.98)	12.86 (3.83)
Deliberating Neg-PTP	87	48.98 (11.67)	14.31 (3.92)	10.48 (3.60)
Deliberating No-PTP	86	56.42 (15.62)	11.22 (3.49)	12.48 (3.67)
Nominal Neg-PTP	75	52.38 (12.27)	14.33 (4.01)	12.25 (3.41)
Nominal No-PTP	72	59.51 (14.37)	13.42 (4.21)	13.49 (4.15)

Note. Standard deviations appear in parentheses next to their respective means. The range of possible scores for defendant credibility is 15.20 to 110. The range of possible scores for the attorney ratings is 3 to 21.

Hypothesis 5: Critical source memory errors. As expected, exposure to negative PTP had a significant main effect on *critical SM errors* and *confidence* in these errors, $Fs(1,60) = 130.49$ and 12.33, $MSEs = 0.03$ and 1.45, $ps < .001$, $\omega^2s = .36$ and $.05$, 95% CI [0.28, 0.43] and [0.01, 0.11]. When compared with No-PTP jurors, Neg-PTP jurors misattributed significantly more PTP facts to the trial (see Table 4) and were more confident in these errors ($Ms = 5.82$ vs. 5.32, $SDs = 0.86$ and 1.28). Contrary to our expectations, deliberation did not have a significant main or interaction effect on critical SM errors, $Fs(1,60) = 0.29$ and 1.39, $MSE = 0.03$, $ps = .59$ and $.24$.

Hypothesis 5: Trial correct judgments. For judgments of correctly attributing trial items to the trial (trial correct), the effect of jurors nested in juries was not significant, $F(1, 317) = 1.10$, $MSE = 0.02$, $p = .30$, and therefore the nested error term was not used for these analyses. There was a significant main effect of PTP and a significant PTP × Deliberation interaction, $Fs(1,317) = 113.60$ ($p < .001$) and 3.99 ($p = .047$), $MSEs = 0.02$, $\omega^2s = .25$ and $.01$, 95% CI [0.18, 0.33] and [0.00, 0.04]. The trial correct proportions were significantly larger for jurors in the No-PTP and nominal conditions than for those in the Neg-PTP and deliberating conditions (see Table 4). In addition, No-PTP jurors were more confident in these correct source judgments than Neg-PTP jurors ($Ms = 6.49$ vs. 6.15, $SDs = 0.67$ and 0.73), $F(1, 317) = 18.19$, $MSE = 0.49$, $p < .001$, $\omega^2 = .05$, 95% CI [0.02, 0.11]. The significant interaction was due to deliberation having a significant

effect on correct trial judgments for Neg-PTP jurors, $F(1, 317) = 7.72$, $MSE = 0.02$, $p = .01$ $.01$, $\omega^2 = .02$, 95% CI [0.01, 0.13], but not for No-PTP jurors, $F(1, 317) = 0.00$, $MSE = 0.02$, $p = .97$. Specifically, Neg-PTP jurors who deliberated were less accurate in these judgments than nominal Neg-PTP jurors (see Table 4).

Hypothesis 6: Mediation analyses. To test our hypotheses, three mediation models were created ($X = $ PTP, $Y = $ post-SM guilt ratings, and $M = $ mediator), one for each of the three proposed mediators (critical SM errors, defendant credibility, and prosecutor ratings). Consistent with Baron and Kenny (1986), we created three regression equations for testing each model and then used the Sobel (1982) test to assess the statistical significance of the indirect effect of the mediator on guilt ratings (see Figures 1–3). The indirect effect of the mediator (ab) is equivalent to the reduction in the PTP effect ($c = $ total effect) after controlling for the mediator (c'; MacKinnon, Warsi, & Dwyer, 1995). Finally, we calculated the proportion of PTP's total effect on guilt ratings that was mediated by the mediator using $[1 - c'/c]$, in which $c' = $ direct effect of PTP and $c = $ total effect of PTP (direct and indirect; Kenny, Kashy, & Bolger, 1998).

Given that the first equation is the same for all three models it is only presented in this paragraph. For the first model, in which critical SM errors were entered as the mediator (see Figure 1), the first regression equation tested the total effect of PTP on guilt ratings ($X \rightarrow Y$) and was significant, $c = 2.92$, $t(318) = 6.32$, $p < .001$. The second equation tested the total effect of PTP on critical

Table 4
Corrected Mean Proportions of Source Monitoring Errors and Correct Responses

	Type of response				
Condition	Critical SME	Trial correct	Trial crime story	Trial both	Trial new
Deliberating	.18 (.18)	.65 (.18)	.03 (.09)	.09 (.11)	.18 (.09)
Nominal	.17 (.18)	.68 (.17)	.00 (.06)	.07 (.10)	.19 (.11)
Neg-PTP	.28 (.18)	.57 (.15)	.03 (.10)	.16 (.10)	.17 (.10)
No-PTP	.07 (.10)	.75 (.16)	.00 (.04)	.00 (.04)	.20 (.10)
Deliberating Neg-PTP	.30 (.17)	.54 (.15)	.05 (.12)	.17 (.10)	.17 (.09)
Deliberating No-PTP	.07 (.11)	.75 (.14)	.01 (.04)	.01 (.05)	.20 (.09)
Nominal Neg-PTP	.27 (.19)	.61 (.13)	.01 (.08)	.14 (.09)	.18 (.11)
Nominal No-PTP	.07 (.09)	.75 (.18)	.00 (.04)	.00 (.01)	.20 (.11)

Note. Standard deviations appear in parentheses next to their respective mean proportions. Critical SME = critical source memory error of attributing pretrial publicity to trial or both; Trial Correct = Trial items correctly attributed to trial; Trial Crime Story = Trial items attributed to crime stories; Trial Both = Trial items attributed to both trial and pretrial publicity; Trial New = Trial attributed to new.
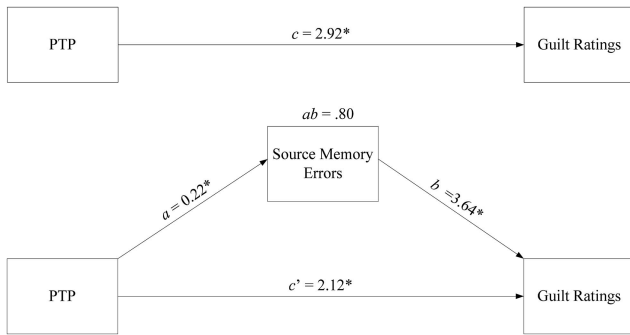
Figure 1. The simple mediation model of $X \rightarrow M \rightarrow Y$ (where X is PTP, M is critical source memory errors, and Y is postsource memory guilt rating). The indirect effect of the mediator (ab) was calculated by multiplying $a \times b$ paths. An asterisk indicates that the path estimate is significant at the alpha level of 0.05.

SM errors ($X \rightarrow M$) and was significant, $a = 0.22$, $t(318) = 13.28$, $p < .001$. The third equation examined the direct effects of PTP (controlling for critical SM errors) and critical SM errors (controlling for PTP) on guilt ratings, and both were found to have significant direct effects, $c' = 2.12$ and $b = 3.64$, $t s(318) = 3.72$ and 2.31, $p < .001$ and $p = .02$, respectively. The indirect effect of critical SM errors on guilt ratings was also significant, $ab = 0.80$, Sobel test $z = 2.27$, $p = .02$, indicating that these SM errors significantly mediated the effect of PTP on guilt ratings. The proportion of PTP's total effect on guilt ratings mediated by critical source memory errors was 0.27.

In the second model defendant credibility was entered as the mediator (see Figure 2). The total effect of PTP on defendant credibility was significant, $b = -5.54$, $t(318) = 4.91$, $p < .001$. The direct effects of PTP and defendant credibility ratings on guilt ratings were significant, $c' = 1.57$ and $b = -0.24$, $t s(318) = 4.07$ and -13.13, $p s < .001$. The indirect effect of defendant credibility on guilt ratings was also significant, $ab = 1.33$, Sobel test $z = 4.59$, $p < .001$, indicating that defendant credibility significantly mediated the effect of PTP on guilt ratings. The proportion of PTP's total effect on guilt ratings mediated by defendant credibility was .46.
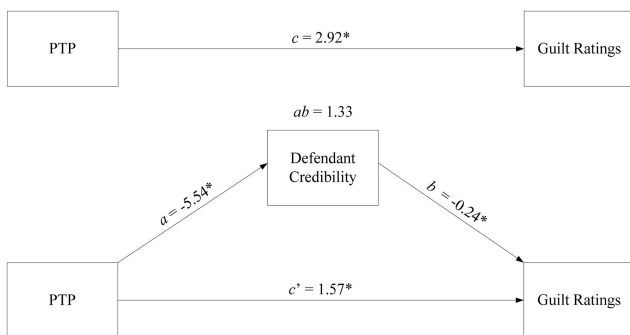

Figure 2. The simple mediation model of $X \rightarrow M \rightarrow Y$ (where X is PTP, M is defendant credibility, and Y is postsource memory guilt rating). The indirect effect of the mediator (ab) was calculated by multiplying $a \times b$ paths. An asterisk indicates that the path estimate is significant at the alpha level of 0.05.

Figure 3. The simple mediation model of $X \rightarrow M \rightarrow Y$ (where X is PTP, M is prosecuting attorney, and Y is postsource memory guilt rating). The indirect effect of the mediator (ab) was calculated by multiplying $a \times b$ paths. An asterisk indicates that the path estimate is significant at the alpha level of 0.05.
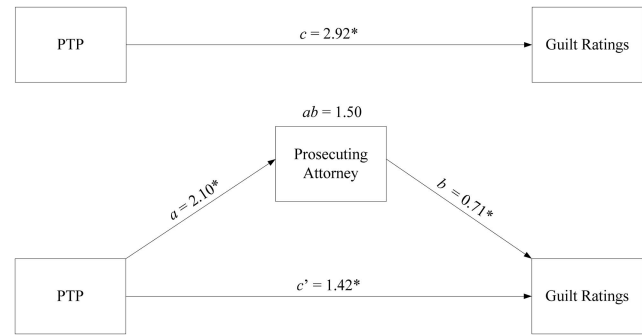
In the third and final model (see Figure 3), the prosecuting attorney ratings were entered as a mediator. The total effect of PTP on prosecuting attorney ratings was significant, $a = 2.10$, $t(318) = 4.74$, $p < .001$. The direct effects of PTP and prosecuting attorney ratings on guilt ratings were also significant, $c' = 1.42$ and $b = 0.71$, $t s(318) = 4.08$ and 16.70, $p s < .001$. The indirect effect of the prosecuting attorney's ratings on guilt ratings was also significant, $ab = 1.50$, Sobel test $z = 4.55$, $p < .001$, indicating that they too mediated the effect of PTP on guilt ratings. Prosecution ratings accounted for .51 of PTP's total effect on guilt ratings.

Discussion

Neg-PTP jurors were significantly more likely than No-PTP jurors to find the defendant guilty, indicate higher guilt ratings, perceive the defendant as less credible, misattribute the source of PTP information, and were less likely to accurately attribute trial items to the trial. Deliberation had significant effects on guilt measures, juror memory, and jurors' ratings of the attorneys. In addition, there were significant PTP × Deliberation interactions for guilt measures, prosecuting attorney ratings, and accurate SM judgments. Of interest, only the No-PTP jurors demonstrated a leniency bias, deliberation reduced the Neg-PTP jurors' SM accuracy for trial items and opinions of the defense attorney, and reduced No-PTP jurors' opinions of the prosecuting attorney. Unfortunately, none of the main or interaction effects of deliberation suggest that it had a corrective function. Instead, Neg-PTP jurors showed little change in guilt measures as a function of deliberation, and were less accurate on some types of source judgments than similarly exposed nominal jurors. Finally, critical SM errors, defendant credibility, and prosecutor ratings significantly mediated the effect of PTP on guilt ratings, suggesting that all are mechanisms through which PTP imparts its biasing effects on juror decisions.

Study Part B

Given that deliberation had significant effects on a number of important variables in Study Part A, we examined the content of the jury deliberations in Study Part B. The main goals of Study Part B were to explore how PTP exposure affects jury delibera-

tions (e.g., discussion of PTP, judicial instructions, and trial evidence) and why deliberations did not reduce PTP bias.

Corrective Function of Juries: Discussion of PTP

The courts believe that group deliberation should attenuate bias as a result of fellow jurors correcting for it (Bourgeois et al., 1995; Studebaker & Penrod, 1997). Contrary to this belief, research suggests that jurors are likely to discuss PTP during jury deliberations, even when admonished not to (Kline & Jess, 1966; Kramer et al., 1990), and such discussion may rarely be corrected (Ruva & LeVasseur, 2012). For example, Kline and Jess (1966) found that PTP was discussed by all four of their PTP exposed juries, who claimed not to use PTP when rendering verdicts. Kramer et al. (1990) found that the majority of PTP exposed juries discussed PTP during deliberations. Subsample analyses of these deliberations revealed that the majority of juries reminded their members that PTP should not be used. Finally, Ruva and LeVasseur (2012) found that all PTP-exposed juries discussed PTP during deliberations, but in contrast to the studies discussed above they rarely corrected PTP discussion.

The conflicting findings regarding the corrective function of juries could be attributable to differences in content analyses and the amount and type of PTP (real vs. fictitious). Kline and Jess (1966) used a *single real* news story, Kramer et al. (1990) used *several fictitious* TV reports and newspaper articles, and Ruva and LeVasseur (2012) used *nine real* news stories. Steblay, Besirevic, Fulero, and Jimenez-Lorente's (1999) meta-analysis found that real PTP had a greater effect on juror verdicts than fictitious PTP. Daftary-Kapur, Penrod, O'Connor, and Wallace (2014) found that juror bias increased as exposure to PTP increased.

As to why jurors may discuss PTP during deliberations when admonished not to, Kramer et al. (1990) and Ruva and LeVasseur (2012) suggests that some instances of PTP discussion during deliberations, as well as failures to correct this discussion, may have been attributable to SM errors (i.e., confusing PTP with trial evidence). In addition, jurors may knowingly discuss PTP and fail to correct its discussion because they consider the PTP information to be vital to the trial and decision making process (Devine, Clayton, Dunford, Seying, & Pryce, 2001).

Discussion of Trial Evidence

In addition to observing whether jurors discuss PTP and correct for PTP discussion, it is also important to observe how much time they spend discussing different types of trial evidence, which can ultimately influence verdicts. Specifically, does the amount of time spent discussing trial information supporting the defense and prosecution, as well as how jurors address ambiguous trial information during deliberation, differ as a function of PTP exposure status? As mentioned in the general introduction, persuasive arguments theory (Vinokur & Burstein, 1974) suggests that jurors will spend more time discussing, and make better arguments for, the side they prefer, which for Neg-PTP exposed jurors should be the prosecution.

Additionally, predecisional distortion theory (Carlson & Russo, 2001) suggests that ambiguous trial information, which does not clearly support either the prosecution or the defense, will be interpreted in a manner that favors the jurors' current leader. If

jurors are exposed to Neg-PTP, this bias interpretation is likely to favor the prosecution. No-PTP jurors may also favor one side or another, but their overall discussion of ambiguous facts should be less biased. Ruva and LeVasseur (2012) did *not* find an effect of PTP on the amount of deliberation time devoted to the discussion of unambiguous defense and prosecution trial facts, but PTP exposed jurors were more likely than nonexposed jurors to discuss ambiguous facts as if they supported the prosecution's case.

Judicial Instructions

Given that judicial instructions lay the framework for which juror decisions must be made (Devine et al., 2004), it is important to explore whether the discussion of judicial instructions varied as a function of PTP exposure status. Davis (1986) found that juries exposed to Neg-PTP produced significantly fewer comments about judicial instructions than juries exposed to neutral PTP. Study Part B explored whether Neg-PTP and No-PTP juries differed in the frequency in which judicial instructions were discussed. These content analyses may help to explain why a leniency bias was only observed for our No-PTP jurors.

In summary, Study Part B explored how PTP affected the deliberation process, and whether the quantitative differences observed in Study Part A could be explained by the qualitative differences observed in the jury deliberations. Videotaped mock-jury deliberations from Study Part A were content analyzed for juror involvement, amount of time spent discussing different types of trial evidence, manner in which ambiguous trial facts were discussed, discussion of jury instructions, and discussion/correction of PTP information by the jury.

Method

Participants and design. Only the 173 mock-jurors who deliberated were included in the analyses for Study Part B. There were 52 (30%) males and 121 (70%) females, who ranged in age from 18 to 51 years ($M = 20.16$ years, $SD = 4.63$). There were 101 (58%) who were Caucasian, 37 (21%) were African American, 23 (13%) were Hispanic, 11 (6%) were Asian or Pacific Islander, and 1 (1%) that fell in the other category. A between-subjects (PTP: Neg-PTP vs. No-PTP) hierarchical design, with jurors nested within juries, was utilized. Eighty-seven of the mock-juror participants were exposed to Neg-PTP and 86 were not exposed. There were 15 juries per condition, each consisting of 5 ($n = 7$) to 6 ($n = 23$) jurors.

Video recording equipment and software. A high-resolution digital video camera was used to record all 30 mock-jury deliberations. The Observer Video-Pro software (Version 5.0; Noldus Information Technology, 2003) was used to content analyze these deliberations. The Observer software can be used to develop elaborate and well-organized coding schemes and is capable of more accurate event timing than transcribed deliberations or video observations using less sophisticated behavioral analysis tools.

Coding scheme, coder training, and procedures. The relevant behaviors were categorized as *events* (possibly co-occurring) or distinct *states* (nonoverlapping) yielding latency/duration, frequency, and rate (see supplemental materials for an overview of the coding scheme). Jurors' discussion of jury instructions and lack

of evidence were coded as events. Talk time for each mock juror was recorded from start to finish and was coded as a state. This allowed for calculation of the amount of time each juror spent talking during the deliberations.

In addition to coded events and states above, all discussions by mock jurors were categorized as distinct states consisting of one of the following: (a) "on topic" (information relevant to the case/decision), (b) "off topic" (information not relevant to case/decision), or (c) undetermined/uncodable. If the state was coded as "on topic" it was then further coded as one of the following: trial fact, PTP fact, fault, verdict consequence, verdict in general, prison sentence, new fact (not discussed during trial or PTP, but relevant to the case), or undetermined. All of the trial and PTP information[2] was further categorized as to the specific fact discussed. If a trial fact was ambiguous, it was further coded as to how the jury discussed it: (a) supporting prosecution, (b) supporting defense, or (c) in an ambiguous manner (not clearly supporting either side or going back and forth between sides). PTP facts were further coded as to whether correction occurred. If correction had occurred, it was coded as either working (jurors discontinued discussion of the fact) or not working (jurors continued to talk about the fact after correction). If there was no correction, jurors responses were coded as one of the following: (a) jurors knowingly discussed PTP without correction, (b) jurors questioned why the fact was not presented in trial, or (c) jurors discussed PTP without acknowledgment of the source of information. Finally, coders recorded whether jurors indicated that the PTP influenced their verdicts, did not influence their verdicts, or verdict influence was undecipherable.

The Observer software and coding manual were used by a total of 9 research assistants who were trained over several weeks on how to properly code all elements of the jury deliberations (i.e., spoken elements and content). All assistants and the trainer coded the same practice tape to test interobserver agreement. Once acceptable reliability (Cohen's kappas of at least .70) between *each* assistant and the trainer was established, actual coding commenced. Trained research assistants, who were blind as to the condition and hypotheses, were assigned to code 6 to 7 videotaped jury deliberations. Each deliberation tape was coded by two randomly assigned research assistants with a third independent coder resolving all differences. Most deliberations took approximately 10 to 12 hours for each assistant to code.

Interobserver agreement analyses. Cohen's kappas were obtained for each modifier level, which is known as *category by category* reliability (Cissna, Garvin, & Kennedy, 1990). For instance in the trial fact category, the first modifier (specific fact) kappas are calculated followed by kappas for the second modifier (how the fact was discussed). Results ranged from .65 to .80 ($M = .73$, $SD = .04$), which Fleiss (1981) considers good to excellent interobserver agreement. Subsequently, all discrepancies were then resolved by a third independent coder.

Hypotheses. Based upon the findings for Study Part A and the research/theory discussed above, four research hypotheses were devised.

1. We expected all Neg-PTP exposed juries to mention PTP during deliberations and rarely correct members who discuss PTP.

2. Neg-PTP exposed juries would be more likely than No-PTP juries to discuss *ambiguous* trial facts as if they support the prosecution's case.

3. We expected that during the course of deliberations Neg-PTP exposed juries would spend a greater proportion of their time discussing trial facts that support the prosecution's case than No-PTP juries.

4. Judicial instructions would be discussed less often by Neg-PTP exposed juries as compared to No-PTP juries. Discussion of judicial instructions included any comment related to the judge's instructions (reasonable doubt, admonishment not to discuss PTP, or general discussion) and elements of the law.

Results

The alpha level for significance was .05. One-way ANOVAs were used for all analyses at the jury level, while hierarchical ANOVAs (jurors nested within juries) were used for analyses at the juror level.

Preliminary analyses: Straw polls. Neg-PTP and No-PTP juries did not significantly differ in the timing of their first straw poll ($Ms = 1.64$ min. and 1.77 min., $SDs = 3.00$ and 3.85), $F(1, 28) = 0.01$, $MSE = 11.82$, $p = .93$, with the majority of juries conducting this poll within the first minute of deliberations (Neg-PTP $= 67\%$ and No-PTP $= 60\%$). Although Neg-PTP and No-PTP juries did not significantly differ on time to first straw poll, they did differ on its outcome, $\chi^2 (1, n = 30) = 6.00$, $p = .01$, $V = .45$, 95% CI [0.24, 0.65]. The first straw polls of all 15 No-PTP juries' resulted in hung verdicts. Ten (67%) of the Neg-PTP juries' first straw polls were hung, with the remaining 5 (33%) being unanimous for guilty.

Preliminary analyses: Jury/juror participation. Relevant to much of the discussion that follows, Table 5 lists how Neg-PTP and No-PTP juries spent their deliberation time, from the highest level of "on topic" versus "off topic," to specific categories of information discussed within the "on topic" category. For each state listed in this table, the percentage given indicates the percentage of deliberation time juries spent discussing this information.

First, we measured the level of participation among the jurors and juries during the deliberation process. At the jury level involvement in deliberations was measured by the proportion of deliberation time that the jury spent discussing trial relevant information (on topic). At the juror level involvement in deliberations was measured by the proportion of deliberation time each juror spent talking. Interestingly, juries exposed to Neg-PTP spent a significantly greater proportion of their deliberation time on topic

---

[2] Trial facts were categorized as prosecution, defense, or ambiguous facts based on coding that occurred at time of the coding scheme development. Twelve research assistants who had not read the PTP but had viewed the trial coded all trial facts as supporting the defense or prosecution. The majority of facts were easily identified as prosecution or defense (fixed-marginal multirater $\kappa = .80$; Brennan & Prediger, 1981; Siegel & Castellan, 1988). Some of the facts were viewed by an equal number of assistants as prosecution and defense. Through further discussion it was determined by the authors that these facts were ambiguous and could be viewed as either defense or prosecution facts.

Table 5
Summary of How Juries Spent Their Deliberation Time

Topic	PTP condition	
	Neg-PTP	No-PTP
Facts supporting prosecution		
Trial facts prosecution	8.38% (5.17)	9.28% (5.55)
Ambiguous facts as prosecution	11.50% (7.61)	6.92% (5.47)
PTP	8.02% (4.42)	0%
Total prosecution facts	27.90% (12.90)	16.20% (8.31)[a]
Facts supporting defense		
Trial facts defense	8.49% (5.29)	11.87% (5.52)
Ambiguous facts as defense	1.47% (1.62)	4.09% (3.91)[a]
Total defense facts	10.07% (4.82)	16.07% (4.51)[a]
Other facts/codes		
Ambiguous facts as ambiguous	8.87% (8.41)	8.69% (5.74)
Fault	11.74% (5.88)	8.80% (6.99)
Prison sentence	6.20% (7.25)	1.33% (2.09)[a]
Verdict consequence	4.73% (8.35)	2.47% (3.04)
Verdict in general-includes straw polls	8.93% (0.05)	16.07%(5.26)[a]
Trial facts miscellaneous	4.30% (3.00)	3.57% (2.84)
Uncodable in current scheme or new	14.27% (5.85)	17.53% (6.69)
Total other facts	59.06%	58.46%
Totals		
Total time on topic (case relevant)	97.03% (4.36)	90.83% (10.45)[a]
Total time off topic	2.97% (4.36)	9.17% (10.45)[a]

Note. The cells in the rows contain the percentage of deliberation time juries spent discussing each topic and *SD*s are presented in parentheses next to their respective percentages.
[a] indicates PTP conditions significantly differed with $p < .05$.

than No-PTP juries (see the bottom panel of Table 5), $F(1, 28) = 4.49$, $MSE = 0.006$, $p = .04$, $\omega^2 = .10$, 95% CI [0.00, 0.36]. For individual jurors the mean percentage of deliberation time spent talking did not significantly differ as a function of PTP exposure ($Ms = 17\%$ and 16%, $SDs = 2\%$ and 2%), $F(1, 28) = 1.67$, $MSE = 0.04$, $p = .21$. Across juries the mean percentage of deliberation time spent talking by the most and least talkative Neg-PTP jurors was 38% and 5% ($SDs = 10\%$ and 3%) and for the No-PTP jurors was 35% and 5% ($SDs = 11\%$ and 2%), and did not significantly differ, $Fs(1, 28) = 0.36$ and 1.58, $MSEs = 0.01$ and 0.007, $ps > .21$.

The Jury Research Institute (2001) reported that as many as 33% of actual jurors are not active deliberation participants. We found that for our juries only 13% jurors spoke for five minutes or less, and that 65% of Neg-PTP jurors and 66% of No-PTP jurors spoke for 10 minutes or more. The above findings suggest that regardless of PTP condition, most jurors were at least moderately involved in the deliberation process. In addition, jurors in the current study

demonstrated similar levels deliberation participation as has been reported in actual trials.

Hypothesis 1: PTP discussion and juror correction. As was expected, all 15 Neg-PTP juries mentioned PTP during deliberations, even though they were instructed not to, whereas none of the No-PTP juries mentioned PTP. Each Neg-PTP jury discussed PTP at least three times during the course of deliberations ($M = 9.40$, $SD = 5.11$, range = 3 to 21). On average, the Neg-PTP juries spent 5.71% ($SD = 3.55\%$, range = 1.14% to 13.72%) of their total deliberation time discussing one or more *specific* PTP facts and another 2.31% ($SD = 2.33\%$, range = 0% to 8.04%) of their time *generically* discussing PTP. Therefore, on average the total percentage of deliberation time devoted to the discussion of PTP was 8.02% ($SD = 4.42$).

Table 6 presents how juries dealt with the discussion of PTP during deliberations (first-level modifiers) and whether jurors discussed the influence of PTP on their verdicts (second-level modifiers). Although PTP was mentioned 141 times, correction by

Table 6
Frequencies for Jurors' Reactions to the Discussion of Pretrial Publicity During Deliberations

Type of PTP	Total frequency	First-level modifiers					Second-level modifiers		
		Correction & worked	Correction & did not work	No correction: trial exclusion questioned	No correction: source acknowledged	No correction: without source acknowledged	PTP did influence	PTP did not influence	Influence undetermined
Specific	109 (6%)	21 (19%)	6 (6%)	4 (4%)	22 (20%)	56 (51%)	12 (11%)	6 (6%)	91 (83%)
General	32 (2%)	6 (19%)	7 (22%)	0 (0%)	18 (56%)	1 (3%)	11 (34%)	9 (28%)	12 (38%)
Total	141 (8%)	27 (19%)	13 (9%)	4 (3%)	40 (28%)	57 (40%)	23 (16%)	15 (11%)	103 (73%)

Note. Percentages appear in parentheses by their respective frequencies. Total Frequency column = the total number of times PTP was discussed during deliberations; Specific PTP = discussed a specific PTP fact; General PTP = general discussion of the crime stories without mentioning a specific PTP fact.

jurors was provided in only 40 instances (28%; see bottom row of first-level modifiers in Table 6). The discussion of PTP came to a halt 68% of the time when correction was provided by fellow jurors, that is correction worked. Forty-percent of the time that PTP was mentioned, jurors talked without acknowledging that the information came from the PTP. Interestingly, in 40 (28%) instances in which jurors failed to provide correction, they acknowledged that the topic of discussion had come from the PTP and discussed the information anyway. There were 4 (3%) instances in which jurors questioned why the PTP information discussed had been excluded from the trial. For most of the PTP discussion it was unclear as to whether jurors believed that the PTP information had influenced their judgments (103 instances or 73%), however during 23 (16%) instances jurors did indicate that PTP influenced them (see second-level modifiers in Table 6).

Hypothesis 2: Ambiguous trial facts. There were 9 trial facts operationalized as ambiguous because they do not clearly support either side. Table 7 displays the frequency and percentage of ambiguous fact time that ambiguous facts were discussed as supporting the prosecution, supporting the defense, or discussed ambiguously. Overall, Neg-PTP juries made more statements about ambiguous facts than No-PTP juries. As was expected, Neg-PTP juries were significantly more likely than No-PTP juries to discuss the ambiguous facts in a proprosecution manner, and significantly less likely to discuss them in a prodefense manner (see Table 7), Fs(1, 28) = 5.52 and 5.49, MSEs = 0.07 and 0.03, ps = .03 and .03, ω^2s = .13 and .13, 95% CIs [0.00, 0.39] and [0.00, 0.39].

Table 5 presents a summary of how juries spent their total deliberation time. Similar to the results above, No-PTP juries spent a significantly greater proportion of their total deliberation time discussing ambiguous facts in a manner that supported the defense's case as compared to Neg-PTP juries (see second panel of Table 5), F(1, 28) = 5.73, MSE = 0.001, p = .02, ω^2 = .14, 95% CI [0.01, 0.40], whereas the difference between these juries did not reach statistical significance for discussing them in a prosecution manner, F(1, 28) = 3.58, MSE = 0.004, p = .07.

Hypothesis 3: Trial facts supporting prosecution and defense. The trial used for this study has 9 trial facts supporting the prosecution and 8 supporting the defense. Contrary to Hypothesis 3, our Neg-PTP juries were found to spend similar amounts of time discussing prosecution and defense trial facts (see the first and second panels of Table 5), and did not significantly differ from the No-PTP juries in the percentage of time spent discussing these facts, Fs(1, 28) = 0.23 and 3.08, MSEs = .003 and .003, ps = .64 and .09.

In Table 5 the different types of prosecution and defense facts are combined to form composite variables of total prosecution and total defense facts (see bottom rows of the first and second panels). Analyses using these composite variables revealed that Neg-PTP juries spent significantly more time discussing prosecution facts and less time discussing defense facts than No-PTP juries, Fs(1, 28) = 8.77 and 12.40, MSEs = 0.01 and 0.002, ps = .01 and .002, ω^2s = .21 and .28, 95% CIs [0.02, 0.46] and [0.06, 0.52]. Interestingly, Neg-PTP juries spent almost thrice as much time discussing information supporting the prosecution as the defense (27.93% vs. 10.07%), whereas No-PTP juries spent similar amounts of time discussing these two types of case information (16.20% and 16.07%). Of course, Neg-PTP jurors had more prosecution information to discuss than No-PTP jurors, because of their exposure to antidefendant PTP.

Hypothesis 4: Judicial instructions. As was expected, No-PTP juries discussed the law and/or jury instructions at more than twice the rate of Neg-PTP exposed juries (Ms = .22 and .10, SDs = .15 and .12), and this same pattern held for the discussion of a lack of evidence to support the prosecution's case (Ms = .26 and .12, SDs = .20 and .11), Fs(1, 28) = 5.45 and 5.29, MSEs = 0.02 and 0.03, ps = .03 and .046, ω^2s = .13 and .13, 95% CIs [0.00, 0.39] and [0.00, 0.35].

Exploratory analyses: Mediation. Given that the deliberations of the Neg-PTP and No-PTP *juries* differed on a number of variables of interest, we decided to explore whether these variables significantly mediated the effect of PTP on *jury-level* guilt ratings. The following variables were entered as mediators into a multiple mediation model of *PTP Exposure → Mediators → Jury-Level Guilt Ratings*: (1) discussion of ambiguous facts in a prosecution manner, (2) discussion of lack of evidence, and (3) discussion of law/jury instructions. We used the bootstrap method with bias-corrected confidence estimates to explore these mediational effects (Preacher & Hayes, 2008). All of our mediators were entered into the model at once, allowing us to test for an overall indirect effect and indirect effects of each mediator controlling for all other mediators in the model. The analyses and bootstrap estimates presented below are based on 2,000 bootstrap samples (Preacher & Hayes, 2008). Consistent with mediation analyses for Study Part A, we calculated the proportion of PTP's total effect on guilt ratings that was mediated by our mediators using $[1 - c'/c]$ (Kenny et al., 1998).

The multiple mediation model is presented in Figure 4. The total effect of PTP on guilt ratings was significant, c = 4.40, t(30) = 3.70, p < .001. As was the direct effect of PTP on guilt ratings, c' = 2.06, t(30) = 2.30, p = .03, but was smaller than the total effect. The reduction of the effect of PTP on guilt ratings, after being adjusted for the mediators, suggests a partial mediation effect. This was supported by the fact that the indirect effects (*ab*)

Table 7
Frequency and Percentage of Time Juries Spent Discussing Ambiguous Trial Facts in a Prosecution, Defense, or Ambiguous Manner

	Neg-PTP				No-PTP			
	Ambiguous	Supports prosecution	Supports defense	Total	Ambiguous	Supports prosecution	Supports defense	Total
Frequency	107	201	28	336	92	123	57	272
Ambiguous Time %	37%	56%	7%	100%	44%	34%	22%	100%

Note. Total column = the total number of times ambiguous trial facts were discussed during deliberations; Specific Frequencies columns = the number of times ambiguous facts were discussed in that manner; Ambiguous Time % = percentage of the ambiguous fact time spent discussing facts in that manner.
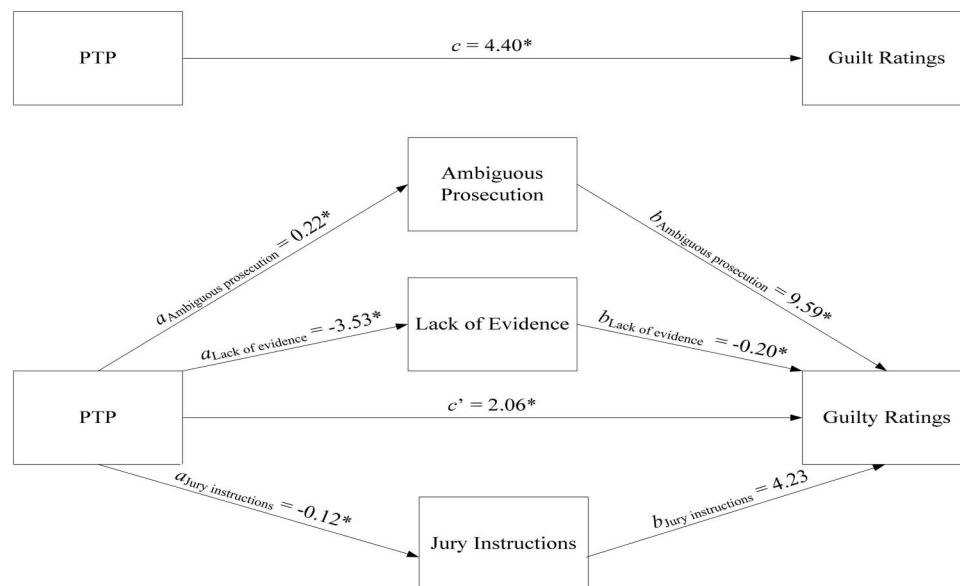
Figure 4. The multiple mediation model for the direct and indirect effects of pretrial publicity (PTP) on jury-level guilt ratings. The three mediators were (a) discussing ambiguous trial information in a prosecution manner (Ambiguous Prosecution), (b) discussion of a Lack of Evidence to convict, and (c) discussion of the law and jury instructions (Jury Instructions). All three of these mediators were simultaneously entered into the model. The bootstrapping method with bias-corrected confidence estimates (based on 2,000 bootstrap samples) was used to test our multiple mediational hypotheses (Preacher & Hayes, 2008). The indirect effects (*ab*) of the mediators were calculated by multiplying $a \times b$ paths and are presented in the text. An asterisk indicates that the bootstrap estimate is significant at the 0.05 level.

of ambiguous prosecution and lack of evidence were significant, $ab = 2.14$ and 0.70, 95% CIs [0.40, 4.34] and [0.21, 2.07]. The direction of this model's *a* and *b* paths (see Figure 4) suggests that Neg-PTP imparts its biasing effects by increasing the discussion of ambiguous information in a manner supportive of the prosecution and decreasing the discussion of lack of evidence. The proportion of PTP's total effect on guilt ratings mediated by our mediators was .47.

Discussion

The results of Study Part B suggest that PTP exposure can influence juries' interpretation and discussion of trial evidence, as well as discussion of the judicial instructions. Also of importance, No-PTP juries discussed the law/jury instructions and lack of evidence at twice the rate of Neg-PTP juries, and were found to demonstrate a leniency bias for verdicts in Study Part A. This is important because it provides some support for the theory that the leniency bias is due to the reasonable doubt standard being highlighted during deliberations (Kerr, 1993; MacCoun & Kerr, 1988). As expected, all Neg-PTP juries discussed PTP during deliberations and most of the time failed to offer correction. Given the high rate of SM errors found in Study Part A, and the high rate of discussion of PTP without source acknowledgment in Study Part B (40% of all instances), at least some of the PTP discussion (and failure to correct) may be attributable to critical SM errors. That being said, some discussion of PTP was clearly an unwillingness to follow judicial instructions admonishing them not to discuss or use PTP when making verdict decisions (33% of time correction offered it did

not work, 3% questioned why not presented at trial, and 28% no correction with the source acknowledged). Finally, discussing ambiguous evidence in a prosecution manner and discussing lack of evidence were found to significantly mediate the effect of PTP on *jury* guilt ratings, suggesting that they are mechanisms through which PTP imparts its biasing effects on decisions at the jury-level.

General Discussion

The study presented in this article explored the effects of PTP and deliberation on mock-jurors' decisions and impressions. Study Part A explored the influences of PTP and deliberation by asking jurors to report on their verdicts and impressions, and make source memory judgments, whereas Study Part B analyzed the content of the jury deliberations. Together these approaches to data analyses (quantitative and qualitative) paint a more complete picture, than either could alone, of how PTP and deliberation influence jurors' decisions.

Why did neither judicial instructions nor jury deliberations ameliorate PTP bias? Study Part A found that PTP and deliberation can affect jurors' memory for the trial and that specific memory errors (confusing PTP for trial information) mediate jurors' postdeliberation guilt judgments. By itself this is an interesting finding, but in combination with Study Part B's finding that PTP-exposed jurors often discussed PTP without making reference to its source, adds to the explanation of how PTP affects both jurors' and juries' decisions. It also helps to explain why deliberation was unsuccessful in significantly reducing PTP bias. That is, one possible reason for the persistence of PTP's influence on jurors' decisions is that jurors mistake

PTP for trial information and discuss PTP during deliberations as if it came from the trial.

In addition to possible source misattributions, jurors often knowingly discussed PTP and failed to offer correction when PTP was discussed during deliberations. There have been many explanations for why jurors *knowingly* fail to follow instructions to disregard inadmissible evidence. According to Sommers and Kassin (2001) jurors may selectively comply with instructions to disregard inadmissible evidence in order to arrive at a "just" verdict (e.g., the defendant is guilty and deserving of punishment). The trial that our mock-jurors viewed was ambiguous as to guilt, but if jurors were exposed to PTP the majority believed him to be guilty. Unfortunately, the ambiguous trial would not allow for a guilty verdict beyond a reasonable doubt, and therefore these PTP-exposed jurors needed to use the PTP to arrive at what they perceived to be a "just" verdict.

Along with knowingly discussing PTP, the PTP-exposed jurors discussed the law/jury instructions at half the rate of their No-PTP counterparts. Lieberman and Sales' (1997) and Lieberman and Arndt's (2000) reviews of judicial instructions provide several explanations of why jurors fail to follow limiting instructions involving inadmissible evidence. One explanation they provide is reactance theory (Brehm, 1966; Brehm & Brehm, 1981), in which instructions to disregard PTP results in jurors paying more attention to the PTP than they would if not instructed. This is likely to occur if such instructions are viewed as impinging upon jurors' freedom to come to a "just" verdict. In the current study we did not manipulate judicial instructions, and therefore our data are not a true test of this theory. However, these data do suggest that our jurors' behaviors, at times, were consistent with their reclaiming of freedom to decide what evidence was relevant. They did this by openly questioning why the PTP had not been presented at trial, disregarding the correction of other jury members, and discussing PTP while acknowledging its source.

In addition to allowing for the discussion of PTP during deliberations, Neg-PTP jurors limited discussion of the law and jury instructions may have prevented deliberations from reducing bias. The Neg-PTP jurors may have demonstrated a leniency bias if they had spent as much time as the No-PTP jurors discussing the law and judicial instructions. Consistent with their limited discussion of the jury instructions, Neg-PTP juries also discussed the fact that there was a lack of evidence to convict at a significantly lower rate than did No-PTP juries. This is important given that such discussion was found to mediate the effect of PTP on jury level decisions. Once again, the combination of the two very different data analytic procedures in this paper allowed us to not only observe that deliberations did not significantly affect the verdicts of Neg-PTP jurors, but also allowed us to explore the reasons for this finding (e.g., discussion of PTP along with little discussion of judicial instructions or lack of evidence).

The antidefendant/proprosecution sentiment of Neg-PTP jurors, assessed by the defendant credibility and attorney rating questionnaires in Study Part A, was clearly evident in the manner in which Neg-PTP juries discussed the ambiguous trial information. We found that the majority of the time Neg-PTP jurors discussed ambiguous trial evidence, they did so in a proprosecution manner, and rarely discussed this evidence in a prodefense manner. The Neg-PTP jurors discussion of ambiguous evidence is consistent with predecisional distortion theory which states that once jurors

have chosen a leader (prosecution or defense), they are prone to interpret future trial evidence in a manner favorable to their leader (Carlson & Russo, 2001). Of interest is the finding that discussion of ambiguous evidence in a prosecution manner significantly mediated the effect of PTP on jury-level guilt ratings. In addition, these deliberation findings can also explain the mediational effects of defendant credibility and prosecutor ratings on individual postdeliberation guilt ratings that were found in Study Part A.

Although Neg-PTP and No-PTP juries differed in their discussion of jury instructions, lack of evidence, and ambiguous trial information, they did not differ in the proportion of deliberation time they spent discussing defense and prosecution trial facts. This finding supports the bias restriction hypothesis, which suggests that people want to appear unbiased. To do so they will discuss evidence supporting all relevant sides when making a decision (Jonas, Schulz-Hardt, Frey, & Thelen, 2001). Therefore, jurors made some attempt to at least appear unbiased, but because of psychological mechanisms of predecisional distortion and source monitoring errors they were unable to remedy (through deliberations) the influences of PTP on their decisions.

Limitations

The research presented in this article has limitations common to most juror/jury research. First, there are limitations with regard to ecological validity in that there was only one week between PTP and trial exposure, the jury deliberations and trial were only 30 minutes in duration (far shorter than actual trials), and all of our juries had fewer than 12 jurors and some had fewer than 6 jurors. Literature regarding the outcome of smaller juries states that 6-person juries have more variability, shorter deliberation time, and are less likely to result in a hung verdict (Devine et al., 2001).

Second, there are limitations in the generalizability of our results given that our mock-jurors were college students who were exposed to only one trial and its surrounding PTP. Therefore, our results are context dependent and may be sample dependent. With regard to the context dependence of our findings, the amount of discussion of PTP during deliberations may be a function of the PTP and trial evidence salience. It should be made clear that the take-home message is *not* that jurors will discuss PTP for a specific amount of time during deliberations, only that such discussion is likely and correction of PTP discussion may be unlikely. Similarly, the difference found in the rate at which the Neg-PTP and No-PTP jurors discussed the jury instructions may be a function of the instructions' complexity. The jury instructions used in the present study were not complex and easy to comprehend. Therefore, the No-PTP jurors could have found them easy to use and discuss. If more complex instructions were provided, it might have resulted in neither type of jury (Neg-PTP or No-PTP) spending much time discussing them.

With regard to the generalizability concerns attributable to experimental exposure of jurors to PTP, research by Daftary-Kapur and colleagues (2014) suggests that carefully executed experimental work can have high external validity. Specifically, Daftary-Kapur and colleagues compared the decisions of mock-jurors who were naturally and experimentally exposed to PTP and found that PTP effects did not significantly differ between these groups.

Future Directions

Very few jury deliberation studies have explored the deliberation process, and even fewer have done so using PTP-exposed jurors. Therefore, much work is still needed in this area. For example, researchers should examine whether both the quantitative and qualitative differences we found between Neg-PTP and No-PTP juries replicate when (a) different trial stimuli are used, (b) PTP stimuli vary in salience, valence, or amount, (c) the complexity of judicial instructions are varied, and (d) when ecological validity is increased by using larger juries (e.g., 12 person) who deliberate for longer periods of time.

Final Conclusions

The study presented in this article provides not only a quantitative examination of jury decision making, but the more difficult and time consuming qualitative examination of the jury deliberation process. Carefully examining how the deliberation process differs for PTP-exposed and No-PTP jurors can help us better understand how PTP influences both jurors' and juries' decisions, as well as what remedies may or may not be effective. Unfortunately, deliberation and admonishments not to use PTP to make verdict decisions were not sufficient to reduce PTP bias. We suggest several reasons for why these remedies were ineffective. It is hoped that understanding the limitations of these remedies, as well PTP's influence on jurors' impressions, cognitions, and deliberation behaviors, will assist social scientists and the courts in identifying effective remedies for PTP bias.

References

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182. http://dx.doi.org/10.1037/0022-3514.51.6.1173

Basden, B. H., Basden, D. R., Bryner, S., & Thomas, R. L., III. (1997). A comparison of group and individual remembering: Does collaboration disrupt retrieval strategies? *Experimental Psychology: Learning. Memory & Cognition, 23,* 1176–1189. http://dx.doi.org/10.1037/0278-7393.23.5.1176

Basden, B. H., Basden, D. R., Thomas, R. L., III, & Souphasith, S. (1998). Memory distortion in group recall. *Current Psychology: Developmental, Learning. Personality, 16,* 225–246.

Bourgeois, M. J., Horowitz, I. A., ForsterLee, L., & Grahe, J. (1995). Nominal and interactive groups: Effects of preinstruction and deliberations on decisions and evidence recall in complex trials. *Journal of Applied Psychology, 80,* 58–67. http://dx.doi.org/10.1037/0021-9010.80.1.58

Boyll, J. R. (1991). Psychological, cognitive, personality and interpersonal factors in jury verdicts. *Law & Psychology Review, 15,* 163–184. Retrieved from http://www.law.ua.edu/lawpsychology/

Brehm, J. W. (1966). *A theory of psychological reactance.* New York, NY: Academic Press.

Brehm, S. S., & Brehm, J. W. (1981). *Psychological reactance: A theory of freedom and control.* New York, NY: Academic Press.

Brennan, R. L., & Prediger, D. J. (1981). Coefficient Kappa: Some uses, misuses, and alternatives. *Educational and Psychological Measurement, 41,* 687–699. http://dx.doi.org/10.1177/001316448104100307

Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The efficient assessment of need for cognition. *Journal of Personality Assessment, 48,* 306–307. http://dx.doi.org/10.1207/s15327752jpa4803_13

Carlson, K. A., & Russo, J. E. (2001). Biased interpretation of evidence by mock jurors. *Journal of Experimental Psychology: Applied, 7,* 91–103. http://dx.doi.org/10.1037/1076-898X.7.2.91

Cheek, J. M. (1983). *The revised Cheek and Buss Shyness Scale* (Unpublished manuscript). Wellesley College.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41,* 330–339. http://dx.doi.org/10.1037/0022-3514.41.2.330

Cissna, K. N., Garvin, B. J., & Kennedy, C. W. (1990). Reliability in coding social interaction: A study of confirmation. *Communication Reports, 3,* 58–69. http://dx.doi.org/10.1080/08934219009367505

Clark, N. K., Stephenson, G. M., & Kniveton, B. H. (1990). Social remembering: Quantitative aspects of individual and collective remembering by police officers and students. *British Journal of Psychology, 81,* 73–94. http://dx.doi.org/10.1111/j.2044-8295.1990.tb02347.x

Daftary-Kapur, T., Dumas, R., & Penrod, S. D. (2010). Jury decision-making biases and methods to counter them. *Legal and Criminological Psychology, 15,* 133–154. http://dx.doi.org/10.1348/135532509X465624

Daftary-Kapur, T., Penrod, S. D., O'Connor, M., & Wallace, B. (2014). Examining pretrial publicity in a shadow jury paradigm: Issues of slant, quantity, persistence and generalizability. *Law and Human Behavior, 38,* 462–477. http://dx.doi.org/10.1037/lhb0000081

Davis, R. W. (1986). Pretrial publicity, the timing of the trial, and mock jurors' decision processes. *Journal of Applied Social Psychology, 16,* 590–607. http://dx.doi.org/10.1111/j.1559-1816.1986.tb01161.x

Devine, D. J., Buddenbaum, J., Houp, S., Studebaker, N., & Stolle, D. P. (2009). Strength of evidence, extraevidentiary influence, and the liberation hypothesis: Data from the field. *Law and Human Behavior, 33,* 136–148. http://dx.doi.org/10.1007/s10979-008-9144-x

Devine, D. J., Clayton, L. D., Dunford, B. B., Seying, R., & Pryce, J. (2001). Jury decision making 45 years of empirical research on deliberating groups. *Psychology, Public Policy, and Law, 7,* 622–727. http://dx.doi.org/10.1037/1076-8971.7.3.622

Devine, D. J., Olafson, K. M., Jarvis, L. L., Bott, J. P., Clayton, L. D., & Wolfe, J. M. T. (2004). Explaining jury verdicts: Is leniency bias for real? *Journal of Applied Social Psychology, 34,* 2069–2098. http://dx.doi.org/10.1111/j.1559-1816.2004.tb02691.x

Dexter, H. R., Cutler, B. L., & Moran, G. (1992). A test of voir dire as a remedy for the prejudicial effects of pretrial publicity. *Journal of Applied Social Psychology, 22,* 819–832. http://dx.doi.org/10.1111/j.1559-1816.1992.tb00926.x

Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2nd ed., pp. 38–46). New York, NY: Wiley.

Frost, P., Ingraham, M., & Wilson, B. (2002). Why misinformation is more likely to be recognised over time: A source monitoring account. *Memory (Hove, England), 10,* 179–185. http://dx.doi.org/10.1080/09658210143000317

Hekkanen, S. T., & McEvoy, C. (2005). Source monitoring in eyewitness memory: Implicit associations, suggestions, and episodic traces. *Memory & Cognition, 33,* 759–769. http://dx.doi.org/10.3758/BF03193072

Hinsz, V. B. (1990). Cognitive and consensus processes in group recognition memory performance. *Journal of Personality and Social Psychology, 59,* 705–718. http://dx.doi.org/10.1037/0022-3514.59.4.705

Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychological Bulletin, 121,* 43–64. http://dx.doi.org/10.1037/0033-2909.121.1.43

Hope, L., Memon, A., & McGeorge, P. (2004). Understanding pretrial publicity: Predecisional distortion of evidence by mock jurors. *Journal of Experimental Psychology: Applied, 10,* 111–119. http://dx.doi.org/10.1037/1076-898X.10.2.111

Jonas, E., Schulz-Hardt, S., Frey, D., & Thelen, N. (2001). Confirmation bias in sequential information search after preliminary decisions: An expansion of dissonance theoretical research on selective exposure to

information. *Journal of Personality and Social Psychology, 80,* 557–571. http://dx.doi.org/10.1037/0022-3514.80.4.557

Jury Research Institute. (2001). *Jury deliberations: What goes on behind closed doors.* Retrieved July 27, 2008, from http://www.jri-inc.com/article3.htm

Kenny, D. A., & Judd, C. M. (1986). Consequences of violating the independence assumption in analysis of variance. *Psychological Bulletin, 99,* 422–431. http://dx.doi.org/10.1037/0033-2909.99.3.422

Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1, pp. 233–265). Boston, MA: McGraw-Hill.

Kerr, N. L. (1993). Stochastic models of juror decision making. In R. Hastie (Ed.), *Inside the juror: The psychology of jury decision making* (pp. 116–135). New York, NY: Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511752896.007

Kerr, N. L., Niedermeier, K. E., & Kaplan, M. F. (1999). Bias in jurors vs bias in juries: New evidence from the SDS perspective. *Organizational Behavior and Human Decision Processes, 80,* 70–86. http://dx.doi.org/10.1006/obhd.1999.2855

Kline, F. G., & Jess, P. H. (1966). Prejudicial publicity: Its effect on law school mock juries. *Journalism & Mass Communication Quarterly, 43,* 113–116. http://dx.doi.org/10.1177/107769906604300115

Kramer, G. P., Kerr, N. L., & Carroll, J. S. (1990). Pretrial publicity, judicial remedies, and jury bias. *Law and Human Behavior, 14,* 409–438. http://dx.doi.org/10.1007/BF01044220

Lieberman, J. D., & Arndt, J. (2000). Understanding the limits of limiting instructions: Social psychological explanations for the failures of instructions to disregard pretrial publicity and other inadmissible evidence. *Psychology, Public Policy, and Law, 6,* 677–711. http://dx.doi.org/10.1037/1076-8971.6.3.677

Lieberman, J. D., & Sales, B. D. (1997). What social science teaches us about the jury instruction process. *Psychology, Public Policy, and Law, 3,* 589–644. http://dx.doi.org/10.1037/1076-8971.3.4.589

MacCoun, R. J., & Kerr, N. L. (1988). Asymmetric influence in mock jury deliberation: Jurors' bias for leniency. *Journal of Personality and Social Psychology, 54,* 21–33. http://dx.doi.org/10.1037/0022-3514.54.1.21

MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research, 30,* 41–62. http://dx.doi.org/10.1207/s15327906mbr3001_3

Moscovici, S., & Zavalloni, M. (1969). The group as a polarizer of attitudes. *Journal of Personality and Social Psychology, 12,* 125–135. http://dx.doi.org/10.1037/h0027568

Noldus Information Technology. (2003). *The observer video-pro* (Version 5.0) [Computer Software]. Wageningen, The Netherlands: Noldus Information Technology.

Nowicki, S., Jr., & Duke, M. P. (1983). The Nowicki-Strickland life-span locus of control scales; Construct validation. In H. M. Lefcourt (Ed.), *Research with locus of control construct* (Vol. 2, pp. 9–51). New York, NY: Academic Press. http://dx.doi.org/10.1016/B978-0-12-443202-4.50006-4

Otto, A. L., Penrod, S. D., & Dexter, H. R. (1994). The biasing impact of pretrial publicity on juror judgments. *Law and Human Behavior, 18,* 453–469. http://dx.doi.org/10.1007/BF01499050

Pennington, N., & Hastie, R. (1988). Explanation-based decision making: Effects of memory structure on judgment. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 14,* 521–533. http://dx.doi.org/10.1037/0278-7393.14.3.521

Pennington, N., & Hastie, R. (1993). The story model for juror decision making. In R. Hastie (Ed.), *Inside the juror: The psychology of juror decision-making* (pp. 192–222). New York, NY: Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511752896.010

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple me-

diator models. *Behavior Research Methods, 40,* 879–891. http://dx.doi.org/10.3758/BRM.40.3.879

Pritchard, M. E., & Keenan, J. M. (1999). Memory monitoring in mock jurors. *Journal of Experimental Psychology: Applied, 5,* 152–168. http://dx.doi.org/10.1037/1076-898X.5.2.152

Pritchard, M. E., & Keenan, J. M. (2002). Does jury deliberation really improve jurors' memories? *Applied Cognitive Psychology, 16,* 589–601. http://dx.doi.org/10.1002/acp.816

Raudenbush, S. W., & Bryk, A. S. (2002). *Linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage.

Ruva, C. L., & Bryant, J. B. (2004). The impact of age, speech style, and question form on perceptions of witness credibility and trial outcome. *Journal of Applied Social Psychology, 34,* 1919–1944. http://dx.doi.org/10.1111/j.1559-1816.2004.tb02593.x

Ruva, C. L., Guenther, C. C., & Yarbrough, A. (2011). Positive and negative pretrial publicity: The roles of impression formation, emotion, and predecisional distortion. *Criminal Justice and Behavior, 38,* 511–534. http://dx.doi.org/10.1177/0093854811400823

Ruva, C. L., & LeVasseur, M. (2012). Behind closed doors: The effect of pretrial publicity on jury deliberations. *Psychology, Crime & Law, 18,* 431–452. http://dx.doi.org/10.1080/1068316X.2010.502120

Ruva, C. L., Mayes, J. L., Dickman, M. C., & McEvoy, C. (2012). Timing and type of pretrial publicity affect mock-jurors' decisions and predecisional distortion. *International Journal of Psychology and Behavioral Sciences, 2,* 108–119. http://dx.doi.org/10.5923/j.ijpbs.20120204.06

Ruva, C. L., & McEvoy, C. (2008). Negative and positive pretrial publicity affect juror memory and decision making. *Journal of Experimental Psychology: Applied, 14,* 226–235. http://dx.doi.org/10.1037/1076-898X.14.3.226

Ruva, C. L., McEvoy, C., & Bryant, J. D. (2007). Effects of pre-trial publicity and jury deliberation on juror bias and source memory errors. *Applied Cognitive Psychology, 21,* 45–67. http://dx.doi.org/10.1002/acp.1254

Siegel, S., & Castellan, N. J. (1988). *Nonparametric statistics for the behavioral sciences* (2nd ed.). New York, NY: McGraw-Hill.

Singer, J. D. (1998). Using SAS PRO MIXED to fit multilevel models, hierarchical models, and individual growth models. *Journal of Educational and Behavioral Statistics, 23,* 323–355. http://dx.doi.org/10.2307/1165280

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling.* Thousand Oaks, CA: Sage.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13,* 290–312. http://dx.doi.org/10.2307/270723

Sommers, S. R., & Kassin, S. M. (2001). On the many impacts of inadmissible testimony: Selective compliance, need for cognition, and the overcorrection bias. *Personality and Social Psychology Bulletin, 27,* 1368–1377. http://dx.doi.org/10.1177/01461672012710012

Stasser, G., Kerr, N. L., & Bray, R. N. (1982). The social psychology of jury deliberation: Structure, process, and product. In N. L. Kerr & R. N. Bray (Eds.), *The Psychology of the Courtroom* (pp. 221–256). New York, NY: Academic.

Steblay, N. M., Besirevic, J., Fulero, S. M., & Jimenez-Lorente, B. (1999). The effects of pretrial publicity on juror verdicts: A meta-analytic review. *Law and Human Behavior, 23,* 219–235. http://dx.doi.org/10.1023/A:1022325019080

Stephenson, G. M., & Wagner, W. (1989). Origins of misplaced confidence effect in collaborative recall. *Applied Cognitive Psychology, 3,* 227–236. http://dx.doi.org/10.1002/acp.2350030303

Studebaker, C. A., & Penrod, S. D. (1997). Pretrial publicity the media, the law, and common sense. *Psychology, Public Policy, and Law, 3,* 428–460. http://dx.doi.org/10.1037/1076-8971.3.2-3.428

Tanford, S., & Penrod, S. D. (1986). Jury deliberations: Discussion content and influence processes in jury decision making. *Journal of Applied Social Psychology, 16,* 322–347.

Vinokur, A., & Burstein, E. (1974). Effects of partially shared persuasive arguments on group-induced shifts: A group-problem-solving approach. *Journal of Personality and Social Psychology, 29,* 305–315. http://dx .doi.org/10.1037/h0036010

Vollrath, D. A., Sheppard, B. H., Hinsz, V. B., & Davis, J. H. (1989). Memory performance by decision-making groups and individuals. *Organizational Behavior and Human Decision Processes, 43,* 289–300. http://dx.doi.org/10.1016/0749-5978(89)90040-X

Warnick, D. H., & Saunders, G. S. (1980). The effects of group discussion on eyewitness accuracy. *Journal of Applied Social Psychology, 10,* 249–259.

Waters, N. L., & Hans, V. P. (2009). A jury of one: Opinion formation, conformity, and dissent on juries. *Journal of Empirical Legal Studies, 6,* 513–540. http://dx.doi.org/10.1111/j.1740-1461.2009.01152.x

Weldon, M. S., & Bellinger, K. D. (1997). Collective memory: Collaborative and individual processes in remembering. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 23,* 1160–1175. http:// dx.doi.org/10.1037/0278-7393.23.5.1160

Wrightsman, L. S. (1974). *Assumptions about human nature: A social-psychological analysis.* Monterey, CA: Brooks/Cole.

Zuber, J. A., Crott, H. W., & Werner, J. (1992). Choice shift and group polarization: An analysis of the status of arguments and social decision schemes. *Journal of Personality and Social Psychology, 62,* 50–61. http://dx.doi.org/10.1037/0022-3514.62.1.50

ORDER FORM

Start my 2015 subscription to *Law and Human Behavior*
ISSN: 0147-7307

____ $85.00   APA MEMBER / AFFILIATE   _____

____ $132.00   INDIVIDUAL NONMEMBER   _____

____ $1,800.00 INSTITUTION   _____

            Sales Tax: 5.75% in DC and 6% in MD   _____

            TOTAL AMOUNT DUE $ _____

Subscription orders must be prepaid. Subscriptions are on a calendar year basis only. Allow 4-6 weeks for delivery of the first issue. Call for international subscription rates.

SEND THIS ORDER FORM TO
American Psychological Association
Subscriptions
750 First Street, NE
Washington, DC 20002-4242

Call **800-374-2721** or 202-336-5600
Fax **202-336-5568** : TDD/TTY **202-336-6123**
For subscription information,
e-mail: **subscriptions@apa.org**

❏ **Check enclosed** (make payable to APA)

Charge my: ❏ Visa   ❏ MasterCard   ❏ American Express

Cardholder Name _____

Card No. _____ Exp. Date _____

_____
Signature *(Required for Charge)*

Billing Address

Street _____

City _____ State _____ Zip _____

Daytime Phone _____

E-mail _____

Mail To

Name _____

Address _____

_____

City _____ State _____ Zip _____

APA Member # _____

LHBA15