

Timing and Type of Pretrial Publicity Affect Mock-Jurors' Decisions and Predecisional Distortion

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Abstract This experiment administered pretrial publicity (PTP) using a *spaced* procedure in which mock-jurors were exposed to eight PTP stories over a period of 10 to 12 days prior to viewing a murder trial and making verdict decisions. The type of PTP varied, with mock-jurors in the *pure* PTP conditions receiving only one type of PTP (negative only or positive only) and those in the *mixed* conditions receiving both negative and positive PTP. Jurors in the mixed conditions either received PTP in an *alternating* fashion (e.g., negative, positive, negative, positive) or a *blocked* fashion (e.g., negative, negative, positive, positive). The spacing of PTP and the mixed PTP exposure allowed us to examine recency and primacy effects associated with PTP exposure, as well as predecisional distortion during PTP exposure. PTP exposure resulted in recency effects for mock-jurors' choice of current case leader while reading the PTP stories. Primacy effects were found for mean distortion scores measured during PTP exposure and for verdicts. Although jurors in our mixed PTP conditions received the same positive and negative PTP stories, they significantly differed on mean distortion scores and verdicts as a function of the timing/order of these stories.

Keywords Juror Decision Making, Pretrial Publicity, Predecisional Distortion, Primacy Effect, Recency Effect

1. Introduction

It has been well established that exposure to pretrial publicity (PTP) biases jurors' and juries' decisions[1]. Research has shown that jurors exposed to negative or anti-defendant PTP are more likely to find the defendant guilty than jurors who have not been exposed to PTP[2-6]. Although considerably less research has explored the effects of positive or pro-defendant PTP on jurors' decisions, there is evidence that it too has the potential to bias jurors' decisions by increasing the likelihood of not guilty verdicts[7,8].

In most of the previous PTP research jurors have been exposed to PTP during a single session, rather than over time. In addition, these jurors are typically exposed to only one type of PTP (e.g., negative), rather than a mixture of PTP (e.g., negative and positive). Actual jurors are likely to be exposed to PTP over time and may be exposed to varying types of PTP. The goals of the present study were to examine the effects of PTP that was administered in a spaced rather than massed procedure and explore how exposure to *mixed* PTP (both negative and positive) differs from exposure to *pure* PTP (e.g., negative only). Jurors in the mixed conditions either received PTP in an *alternating* fashion (e.g., negative, positive, negative, positive) or a *blocked*

fashion (e.g., negative, negative, positive, positive); with half of the jurors receiving a positive story first and half receiving negative story first (see Appendix A). The spacing of PTP and the mixed PTP exposure allowed us to examine how PTP presentation order affected jurors' decisions (recency and primacy effects) and predecisional distortion during both PTP and trial exposure.

1.1. Recency and Primacy Effects

Shaffer discusses concern about the impact of "continued coverage of a case" and states that there are two lines of thought as to how more recent PTP may impact attitudes that were developed from earlier media coverage[9]. First, there may be a cumulative effect of PTP on attitudes. DeLuca found that mock jurors exposed to three negative pieces of information about the defendant were more likely to render guilty verdicts than jurors exposed to only one or two pieces of information[10]. Similarly, Shaffer found that the number of PTP articles appearing in a newspaper as well as respondents' estimates of their amount of PTP exposure were predictors of guilt[9]. These findings suggest that as the quantity of PTP increases so does its biasing effect on decisions. The second line of thought as to how more recent PTP may impact early attitudes is that this later coverage may be given less attention, and therefore the first PTP articles would have the greatest impact on attitudes and decisions (primacy effect). The attention decrement hypothesis suggests, once impressions become crystallized new information will be viewed as unneeded and hence

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little attention will be paid to later PTP stories[11,12]. In addition, the reduced attention to later PTP may result from its perceived redundancy due to the media's tendency to summarize the case/crime in subsequent news story[9].

Neither line of thought speaks to a recency effect in which PTP presented later (thus closer to trial) would have the greatest impact on juror attitudes (and ultimately decisions) due to greater accessibility, but this too is a possibility. In addition, neither line of thought speaks to how the timing of conflicting PTP impacts jurors' decisions. Although the impact of early versus late PTP information on juror decisions has not been directly explored, research has explored recency and primacy effects in regards to trial evidence presentation and these results are discussed next.

Previous research shows mixed findings with regards to whether early or late trial information has the greatest influence on legal judgments and decisions. For example, research exploring order effects for evidence presentation has found both recency[13-16] and primacy effects[17,18]. Costabile and Klein investigated how the order in which evidence is presented affects jurors' verdicts[13]. The results of their four studies indicated recency effects in which mock-jurors were more likely to deliver guilty verdicts when incriminating evidence was presented at the end of the trial than when it was presented at the beginning. They believe that this recency effect was observed because jurors could easily recall the evidence presented late in the trial when rendering verdicts. Kerstholt and Jackson, and Furnham also found recency effects with jurors receiving trial evidence in a defense-prosecution order indicating a higher probability of guilt or being more likely to vote guilty than jurors receiving the identical evidence in a prosecution-defense order[15,16].

In contrast, Carlson and Russo found a primacy effect with early witness affidavits having more influence on verdicts than later ones[17]. The impact that serial position had on verdicts was determined by examining jurors' ratings of verdict strength and their post-decisional ratings of how believable and important each witness affidavit had been in their verdict decision. Similarly, Schum found that early trial evidence was likely to have a greater impact on mock-juror decisions with nearly half of his mock-juror either ignoring testimony that conflicted with prior evidence or reinterpreting it as agreeing with earlier testimony[18].

Primacy effects are also suggested by Pennington and Hastie's story model[19-21]. According to the story model, early information about a case (e.g., PTP, knowledge about crime categories, and evidence presented early at trial) as well as individual biases create a belief framework about the defendant's guilt. This framework then directs the juror's attention and provides a filter through which later evidence is interpreted[19]. Pennington and Hastie propose that once jurors have formulated a plausible story about the crime their verdicts will be consistent with that story[19,22]. The story model suggests that if jurors can create a complete story from early PTP information, later PTP information that does not fit this story may be ignored or devalued,

resulting in a primacy effect in which early PTP has a greater effect on jurors' judgments than later PTP.

The research and theory above suggests that the order in which information is presented can have a powerful effect on how that information is processed and what information will have the greatest impact on judgments and decisions. In addition, the inconsistent findings as to whether early or late information has the greatest impact on judgments suggests that the effect of presentation order may be influenced by or interact with other variables. For example, basic memory research suggests that recency effects disappear with the institution of a delay or distractor task[23], but primacy effects remain[24-26]. In addition, Luchins and Luchins suggests that primacy and recency effects are dependent upon the amount of time that passes between exposure to *conflicting* messages and making a judgment[27]. They found a strong recency effect immediately after exposure to conflicting descriptions of a target individual, but one week after exposure the participants exhibited a primacy effect. Similarly, Mayo and Crockett, and Insko found recency effects when no delay was instituted between the presentation of conflicting descriptions of a person and making a final impression[28,29]. When a delay was instituted between descriptions and impressions Mayo and Crockett observed primacy effects and Insko found a reduction in recency effects.

Research has also shown that primacy and recency effects can be affected by when in the sequence of information presentation a judgment is requested. Primacy effects are typically found when a subject is required to make only a single judgment after all information is presented[16,30]. Requiring subjects to make repeated judgments based on partial information has generally resulted in recency effects[16,31,32]. For example, Kerstholt and Jackson had participants provide judgments either after each piece of trial information (step-by-step judgment) was presented (similar to predecisional distortion paradigm; see discussion below) or at the end of evidence presentation (end-of-sequence judgment)[16]. In the step-by-step judgment condition a recency effect was observed; later evidence had a greater effect on judgments than earlier evidence. In the end-of-sequence judgment condition, the order effect depended on whether background information (which hinted at a possible motive for the crime) was provided. A recency effect was found when participants were given background information, and a primacy effect was found when background information was not provided.

Anderson used the attention decrement hypothesis to explain how experimental conditions influence whether a primacy or recency effect is found in impression-formation studies[30]. According to the attention decrement hypothesis, when only a final judgment is required, primacy effects result from the decreased attention paid to information presented later, after an impression has become crystallized. The attention decrement hypothesis explains recency effects when repeated judgments are required by proposing that the additional response requirements force an increase in atten-

tion to the later information. Hendrick and Constantini's results are consistent with the attention decrement hypothesis[32]. They had participants rate people described by serially presented personality traits. When participants were required to give only a final evaluative response, a primacy effect was obtained. When participants were additionally required to pronounce each trait description as it was presented, recency effects were obtained.

In summary, the research above suggests that whether primacy or recency effects are observed depends on a number of experimental conditions. Importantly for the present study, recency effects are found when judgments are made in a step-by-step fashion and when there is no delay between information presentation and judgment. In contrast, when there is a delay or only a single global judgment is required, primacy effects are likely.

1.2. Predecisional Distortion

In addition to exploring recency and primacy effects, the spaced nature of our PTP exposure allowed us to measure predecisional distortion (PDD; [17]) during PTP exposure as well as during trial exposure. According to PDD theory[17], early during a trial jurors develop a trial leader (defense or prosecution) and then distort evidence to support this leader. Jurors demonstrate PDD when their evaluations of a witness's testimony are biased in the direction of their trial or case leader, rather than on its true probative value (leader-free evaluation). For example, if the leader-free value of a witness' testimony slightly favors the prosecution and the juror indicates that it slightly favors the prosecution then this evaluation is unbiased (not distorted)[17]. In contrast, if this juror indicates that the testimony favors neither side or that it favors the defense this evaluation is distorted in the direction of the defense. If the juror's current leader is the defense, this distortion would be scored as positive, given that it favored the current leader and was an under supportive evaluation of a pro-prosecution witness.

Hope, Memon, and McGeorge, and Ruva *et al.* found that jurors exposed to negative PTP were significantly more likely to vote guilty and have higher levels of PDD than jurors in their control groups[6,33]. We wanted to expand on these findings by measuring PDD during PTP exposure as well as during trial exposure. This entailed having jurors' make the following judgments after each PTP story: (1) indicate the *case leader* (Considering all of the PTP stories presented thus far, which side is the leader?), (2) their confidence in their case leader choice, and (3) *current story leader* (which side the current PTP story favored). During the trial phase of the experiment it entailed having jurors indicate the *trial leader* (considering all of the *trial* evidence presented thus far) and the *current witness leader* (which side does the current witness' testimony favor) after each witness' testimony.

In the present study, recency effects are expected for jurors' choices of *case leaders* due to jurors' increased attention to later information resulting from having to make repeated judgments on the PDD questionnaire[16,30,32] and

the lack of a delay between exposure to PTP and judgment task. An argument could also be made for recency effects on verdicts in that the PTP stories read last should be more accessible at time of trial. This was thought to be unlikely due to the institution of a one-week delay between jurors reading the last story and viewing the trial. Thus, none of the PTP information would be recent in the typical sense. Instead, with this delay recency effects were expected to fade and primacy effects were expected to be evident for trial leaders and verdicts[27].

The present study consisted of three phases. During phase 1, mock-jurors were given instructions regarding the procedures for reading the crime stories (PTP). During phase 2, jurors were exposed to eight PTP stories over a 10 to 12 day period (one story per day) via a web-based survey tool. After reading each story they completed the PDD questionnaire indicating which side (prosecution or defense) the current PTP story favored (current story leader) and which side would ultimately win the case (case leader). Jurors in the pure conditions read only one type of PTP (negative, positive, or unrelated); while those in the mixed conditions read both positive and negative PTP (see Appendix A). Half of the mixed jurors were exposed to the different valenced PTP in a *blocked* fashion (e.g., negative, negative, positive, positive) and half in an *alternating* fashion (e.g., negative, positive, negative, positive), with some reading positive PTP first and others reading negative PTP first (see Appendix A). Approximately one week after reading the final PTP story, jurors viewed a murder trial that was segmented into 9 sections allowing for measurement of PDD and then provided verdicts (phase 3). The following hypotheses were tested.

1.3. Hypotheses

1.3.1. Hypothesis 1: Case Leader for PTP Stories

Recency effects were expected for jurors' choice of case leader¹ during PTP exposure. Looking at the third and eighth stories that the jurors read, case leader decisions were expected to be biased in the direction of that story's valence (pro-prosecution for negative or pro-defense for positive).

1.3.2. Hypothesis 2: Predecisional Distortion for PTP and Trial

Primacy effects were expected for mean PDD scores. Specifically, jurors in the N-PTP, P-PTP, and blocked PTP conditions were expected to have larger mean PDD scores than jurors in the alternating PTP conditions for both the PTP and trial exposures measures. The point-counter point presentation of PTP in the alternating conditions was expected to result in small mean PDD scores.

¹ Case leader was defined as the side (prosecution or defense) that had the strongest case when all PTP stories were considered. We wanted to evaluate case leader both early during PTP exposure and at the end of PTP exposure. Stories three and eight were chosen so that for jurors in the mixed conditions case leaders would be evaluated after two differently valenced PTP stories. This also allowed us to examine blocked conditions case leader choices prior to exposure to the second type of PTP.

1.3.3. Hypothesis 3A: Guilt Measures Pure Conditions

Negative PTP jurors (N-PTP) were expected to be more likely to vote guilty and have higher guilt ratings than positive (P-PTP) jurors and those exposed to unrelated crime stories (U-PTP).

1.3.4. Hypothesis 3B: Guilt Measures Mixed Conditions-Blocked

Primacy effects were expected in the *blocked* PTP conditions with the PTP stories read first having the largest effect on verdicts and guilt ratings. Blocked PTP jurors reading the negative PTP stories first (BNP condition; see Appendix A) were expected to be more likely to vote guilty and have higher guilt ratings than P-PTP and U-PTP jurors, but were not expected to significantly differ from the N-PTP jurors on any of the guilt measures. In contrast, blocked PTP jurors reading the positive PTP stories first (BPN condition) were expected to be more likely to vote not guilty and have lower guilt ratings than N-PTP and U-PTP jurors, but were not expected to significantly differ from the P-PTP on the guilt measures.

1.3.5. Hypothesis 3C: Guilt Measures Mixed Conditions-Alternating

The point-counter point presentation of the PTP in the *alternating* conditions (ANP and APN; see Appendix A) was expected to result in equally biasing effects for both types of PTP (negative and positive). Specifically, alternating juror verdicts and guilt ratings were expected to closely resemble those of U-PTP jurors and therefore significantly differ from N-PTP and P-PTP jurors.

2. Method

2.1. Participants

The participants were 207 university students (45 men and 162 women) who received extra course credit for participating in the experiment. They ranged in age from 18 to 57 years ($M = 21.84$, $SD = 5.67$) and were jury eligible in the state that the research took place in (U.S. Citizens, 18 years or older, and have a driver's license or ID card. The sample was 65% White, 14% Hispanic, 12% African American, 4% Asian/Pacific Islander, and 5% other.

2.2. Design

This experiment utilized a between subjects design (PTP exposure: N-PTP, P-PTP, ANP, APN, BNP, BPN, and U-PTP). All of the conditions except for the U-PTP received PTP about the defendant in the stimulus trial. The U-PTP jurors read unrelated crime articles. After completing phase 1 of the experiment, participants were randomly assigned to one of the seven PTP conditions. There were 29 participants in the P-PTP, U-PTP and APN conditions and 30 participants in the remaining conditions.

2.3. Stimuli

2.3.1. Trial

The stimulus trial consisted of an actual videotaped

criminal trial of a man accused of murdering his wife (*NJ v Bias, 1992*), which was edited to run 30 minutes. The trial was segmented into nine sections in order to allow for participants to answer the predecisional distortion questions after each witness' testimony. Segment 1 included the opening statements of the two attorneys. Segments 2 through 8 included testimony from 7 witnesses (one of which was the defendant). Segment 9 included the closing arguments of both attorneys and the judicial instructions.

The trial used in this study has been used in prior research[7,33-36], that suggests the trial is ambiguous as to guilt. When exploring juror bias, ambiguous trials are preferred as they are more open to biasing influences[2,37] and are more ecologically valid[38] than unambiguous trials.

2.3.2. Pretrial publicity

All participants read eight news articles about crimes that were taken from a web-based archive for the *Morning Call* newspaper². Participants in the PTP exposed conditions (N-PTP, P-PTP, ANP, APN, BNP, and BPN) read news stories that were modified from actual PTP from the *NJ v Bias* trial. These news stories contained general information about the case (e.g., victim, when and where the crime took place, and description of the crime) as well as information that was not presented at trial and that could have a biasing effect on juror verdicts (see Appendix B for a sample of each type of PTP information). Jurors in the pure PTP conditions (N-PTP and P-PTP) read eight articles of the same type. The participants in the four mixed conditions (ANP, APN, BNP, and BPN) read eight of the PTP articles (4 positive and 4 negative), but the presentation order of these articles varied across conditions (see Appendix A). Jurors in the mixed conditions were exposed to all of the PTP facts that jurors in the pure conditions (N-PTP and P-PTP) were exposed to, but jurors in the pure conditions were exposed to each fact a greater number of times than those in the mixed conditions. In other words, the jurors in the mixed PTP conditions were exposed to all of the positive and negative PTP facts, but were exposed to each fact a fewer number of times.

Participants in the U-PTP condition received actual news articles involving an unrelated crime in which a woman was accused of embezzling child support funds. These articles were similar in composition to the news articles in the PTP conditions (i.e., 8 separate news articles of approximately the same length) and were negative (anti-defendant; see Appendix B) in nature.

2.4. Measures

2.4.1. Predecisional Distortion Scale

The predecisional distortion (PDD) scale and procedure used to measure PDD were developed by Carlson and Russo

² The Morning Call newspaper is located in Allen Town, PA and the trial took place in New Jersey. Participants were instructed that if they were familiar with any these stories they should let the experimenters know immediately. Participant familiarity with the *NJ v. Bias* case and the surrounding PTP was thought unlikely due to the majority of media coverage taking place in the late 1980's and early 1990's and the fact that participants resided in the southeast.

and have been used by other researchers[17,33]. Predecisional distortion was measured during both the PTP exposure and the trial phases of the experiment. Each PTP story (N = 8) or witness testimony (N = 7) was followed by the same three questions. The first question asked the participants to consider only the PTP story they just read or witness testimony they just viewed and decide which side it favored and how strongly it favored that side (*current story or trial leader*). The response options ranged from 1 (*strongly favored the defense*) to 9 (*strongly favored the prosecution*) with the mid-point 5 indicating that it *favored neither party*.

The second question asked the participants to consider all of the information/evidence presented in the PTP or trial and then indicate who they believed was the *case leader* (PTP phase) or *trial leader* (trial phase). The third question asked participants to indicate how confident they were that their case leader would eventually "win" the trial. The scale ranged from 50% (the parties have an equal chance of winning) to 100% (the current leader would definitely win). During the trial phase participants were instructed to only use the trial information when making these ratings.

The PDD scores were derived using Carlson & Russo's method, which is clearly explained by Hope *et al.* and Ruva *et al.* and briefly explained here[7,17,33]. As discussed above, jurors demonstrate PDD when their evaluations of a witness's testimony are biased in the direction of their current case leader, rather than on its true probative value (leader-free evaluation/value)[17]. To calculate distortion scores the leader-free value (LeaderFree_j) of a PTP story or witness' testimony was subtracted from the juror's evaluative score of the witness (Eval_{ij}). This score was multiplied by +1 if the evaluation was in the direction of their current leader or by -1 if the direction was away from the leader. Distortion scores were calculated for each witness using the following formula: (+1 or -1) * (Eval_{ij} - LeaderFree_j).

2.4.2. Verdicts and Guilt Ratings

After viewing the trial, participants rendered their verdicts (guilty or not guilty) and indicated how confident they were in their verdicts on a 7-point Likert scale (1 indicating not at all confident, midpoint rating of 4 indicating that the participant was unsure, and 7 indicating completely confident). Guilt ratings were calculated by multiplying the confidence rating by -1 if the participant rendered a not guilty verdict and +1 if he/she rendered a guilty verdict. This resulted in a 14-point scale with -7 indicating that the participant voted not guilty and was completely confident in this decision and +7 indicating that he/she voted guilty and was completely confident in this decision.

2.4.3. Juror Bias Scale

The Juror Bias Scale was administered to jurors with the title "Legal Attitudes Scale"[39]. This scale contained 17 items with the response scale ranging from 1 (strongly disagree) to 5 (strongly agree). Internal consistency of the scale based on split-half reliability is $r = .81$, with 5-week

test-retest reliability of $r = .67$ [39]. More information on the validation and reliability of the scale can be found in[39]. The main purpose of administering this scale was to assist in providing a cover story for why the participants would be reading stories about crime. Therefore, these data were not analyzed.

2.5. Procedure

This experiment was conducted in three phases, which are explained below.

2.5.1. First Phase

During phase 1, participants were run in groups of 12 or fewer, and at the end of Phase 1 they were randomly assigned to PTP conditions. Participants' first tasks during Phase 1 were to complete a demographic questionnaire and the Juror Bias Scale. Participants were then given both written and verbal instructions regarding how to complete the online survey portion of the experiment (described below). Participants were informed that they would be receiving an email later that day that would also include these instructions and would verify that the researchers had their correct email addresses. Participants were then excused for the day and were reminded that they would be completing their first online survey the next day.

2.5.2. Second Phase: Online Surveys

Jurors were exposed to PTP via eight online surveys over a period of 10 to 12 days. Each day the jurors received an email from a researcher informing them that a survey was available for them to complete and that they had until 11:59 pm that day to complete it. Access to surveys was password restricted (Sona Systems) and each survey was available to participants for a limited period of time (12 to 14 hours). Each survey consisted of one PTP article/story followed by the three predecisional distortions questions and three open-ended memory questions. The memory questions were used as a method of verifying that the participants were reading the PTP articles. Performance on the memory questions was checked daily. If participants got fewer than two questions correct they were sent a warning email informing them of their poor performance and that continued poor performance would result in study disqualification. If participants failed to complete a survey on the day it was assigned they were sent a missed survey email and were instructed to complete it the following day. If the participant received more than two missed surveys notices they were sent a disqualification email and did not participate in Phase 3 of the experiment.

2.5.3. Third phase: Trial Presentation and Verdicts

Approximately one week after exposure to the final PTP article participants came back to the laboratory and in groups of 12 or fewer viewed a videotaped murder trial that was divided into nine sections consisting of an introduction with opening arguments from both attorneys, the testimony from

six witnesses and the defendant, and the closing arguments of the prosecution and the defense attorney. After each witness' testimony and the defendant's testimony the video was stopped and the participants answered the three predecisional distortion questions. After viewing the entire trial the participants rendered verdicts and provided guilt ratings after being instructed by the experimenter to: (1) only use information contained in the trial when making these decisions and (2) not to use any of the information contained in the news articles when making verdict decisions. In addition, the judge in the trial provided the following instructions: "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."

3. Results

For all analyses the alpha level for significance was set at .05. ANOVAs were used to test hypotheses involving interval scale dependant measures; while Chi squares were used for our nominal scale dependant measures.

3.1. Hypothesis 1: Case Leader for PTP Stories

In order to examine whether recency effects could explain jurors' case leader choices ("Considering all of the PTP stories read up to this point who is the current case leader?") chi squares were conducted in which the valence of the *just read* story (negative PTP or positive PTP) was the independent variable and the jurors' choice of case leader for stories three and eight were the dependent variables. The U-PTP jurors were not included in these analyses because they did not read the *NJ v. Bias* PTP. As expected, case leader choices for stories 3 and 8 significantly varied as a function of the valence of these stories, $\chi^2s(1, N = 178) = 123.06$ and 45.38 , $Vs = .83$, and $.51$, $ps < .01$. Due to the fact that PTP valence did not vary in the pure conditions, only the *mixed* PTP conditions (BNP, BPN, ANP, and APN) were included in the follow-up analyses presented below.

For stories three and eight the valence of the just read story had a significant effect on case leader choices for jurors in the blocked (BNP and BPN) and alternating (ANP and APN) conditions, $\chi^2s(1, N = 119) = 79.28$ and 11.23 , $Vs = .82$, and $.31$, $ps < .01$, respectively. Specifically, jurors whose third story was negative PTP (BNP and ANP) were significantly more likely to choose the prosecution as the leader than were jurors whose third story was positive PTP (BPN and APN; see Table 1), $\chi^2s(1, Ns = 59$ and $60) = 52.50$, 51.50 , 29.40 and 30.24 , $Vs = .94$, $.93$, $.71$, and $.71$, $ps < .01$, respectively. Jurors in the blocked conditions whose eighth story was negative PTP (BPN) were more likely to choose the prosecution as the leader than jurors in the blocked conditions whose eighth story was positive PTP (BNP; see Table 1), $\chi^2(1, N = 59) = 5.28$, $V = .30$, $p < .05$. Similarly, jurors in the alternating conditions whose eighth story was negative PTP (APN) were more likely to choose the prosecution as the

leader than alternating jurors whose eighth story was positive PTP (ANP; see Table 1), $\chi^2(1, Ns = 60) = 6.11$, $V = .32$, $p < .05$.

The blocked conditions' results for story three are *not* surprising in that until story five these jurors only received one type of PTP. Nor were the alternating jurors' results for story three given that the valence of stories one and three were the same. What is interesting (and expected) are the results for story eight in which those in the BPN and APN conditions overwhelming chose the prosecution as the leader yet as we will show below their verdicts showed an opposite bias (APN) or were ambiguous (BPN) as to guilt. Also, interesting, ANP and APN jurors differ greatly in who they believe will ultimately win the trial at story eight, but as the verdict results below will reveal, their trial verdict distributions are almost identical. In summary, recency effects were clearly evident for leader choices at stories three and eight, but as will be shown below, verdicts did not follow the same pattern.

Table 1. Case Leader Frequencies (and percentages) by PTP Conditions

PTP Condition	Leader Story 3		Leader Story 8	
	Defense	Prosecution	Defense	Prosecution
N-PTP	0 (0%)	30 (100%)	0 (0%)	30 (100%)
P-PTP	25 (86%)	4 (14%)	26 (90%)	3 (10%)
ANP	7 (23%)	23 (77%)	20 (67%)	10 (33%)
APN	27 (93%)	2 (7%)	10 (34%)	19 (66%)
BNP	0 (0%)	30 (100%)	16 (53%)	14 (47%)
BPN	28 (97%)	2 (3%)	7 (24%)	22 (76%)
U-PTP	N/A	N/A	N/A	N/A

Note. PTP = pre-trial publicity, N-PTP = negative, P-PTP = positive, ANP = alternating with negative PTP first, APN = alternating with positive PTP first, BNP = blocked with negative PTP first, BPN = blocked with positive PTP first. U-PTP mock-jurors did not read stories related to the trial presented during phase 3 of the experiment.

3.2. Hypothesis 2: Predecisional Distortion for PTP and Trial

Three one-way ANOVAs were used to test our predecisional distortion hypotheses. The predecisional distortion (PDD) scores included in these analyses are from the eight PTP stories (4 positive and 4 negative) that were read by all of the mixed groups (alternating and blocked conditions; see Appendix A). The analyses involving the mean PDD score for all eight PTP stories did not include the N-PTP and P-PTP jurors because they did not read the other type of PTP stories. The N-PTP jurors were included in analyses involving the four negative PTP stories and the P-PTP jurors were included in the analyses involving the four positive PTP stories. The U-PTP jurors were not included in these analyses because they did not read any of the negative or positive PTP stories.

Exposure to PTP had a significant effect on mean PDD scores across all eight PTP stories, as well as across the four negative PTP and four positive PTP stories, $Fs(1, 115, 144, \text{ and } 143) = 5.64, 14.29, 7.74, MSEs = 0.19, 0.36, \text{ and } 0.39, ps < .05, \omega^2s = .11, .26, \text{ and } .15$, respectively. Across the eight mixed surveys, the jurors in the blocked conditions (BNP

and BPN) had larger mean PDD scores than jurors in the alternating conditions (ANP and APN; see Table 2), $F_s(1, 86) = 12.45$ and 6.86 , $MSE = .20$, $ps < .05$, $\omega^2s = .10$ and $.06$, respectively. As expected, blocked exposure to PTP resulted in greater PDD in which jurors interpreted the PTP stories in a manner that favored their leader.

Table 2. Mean Predecisional Distortion Scores (and standard deviations) for Pretrial Publicity Phase of the Experiment

PTP Condition	Pretrial Publicity Phase		
	4 Negative PTP Stories	4 Positive PTP Stories	8 Mixed PTP Stories
N-PTP	0.67 (0.66)	N/A	N/A
P-PTP	N/A	0.63 (0.37)	N/A
ANP	0.05 (0.66)	-0.15 (0.75)	-0.05 (0.53)
APN	-0.31 (0.45)	0.35 (0.61)	0.03 (0.35)
BNP	0.63 (0.63)	0.07 (0.66)	0.35 (0.39)
BPN	0.06 (0.57)	0.50 (0.65)	0.28 (0.36)
U-PTP	N/A	N/A	N/A

Note. The 8 mixed PTP stories consisted of the 4 negative and 4 positive stories. Only the mixed conditions read all 8 of these stories and therefore means are not presented for the pure conditions (N-PTP, P-PTP, and U-PTP). ANP = alternating with negative PTP first, APN = alternating with positive PTP first, BNP = blocked with negative PTP first, BPN = Blocked with positive PTP first.

Table 3. Mean Predecisional Distortion Scores (and standard deviations) for Trial Phase of the Experiment

PTP Condition	Trial Phase		
	Defense Witnesses	Prosecution Witnesses	All Trial Witnesses
N-PTP	0.06 (1.34)	0.90 (1.32)	0.54 (0.78)
P-PTP	0.35 (1.40)	0.04 (1.18)	0.17 (0.73)
ANP	0.10 (1.47)	0.65 (1.34)	0.42 (0.82)
APN	0.31 (1.28)	0.17 (1.14)	0.23 (0.79)
BNP	0.33 (1.23)	0.80 (1.32)	0.60 (0.85)
BPN	0.25 (1.43)	0.39 (1.30)	0.34 (0.83)
U-PTP	0.27 (1.37)	0.49 (1.21)	0.39 (0.69)

Note. The 8 mixed PTP stories consisted of the 4 negative and 4 positive stories. Only the mixed conditions read all 8 of these stories and therefore means are not presented for the pure conditions (N-PTP, P-PTP, and U-PTP). ANP = alternating with negative PTP first, APN = alternating with positive PTP first, BNP = blocked with negative PTP first, BPN = Blocked with positive PTP first.

Also as expected, across the four *negative* stories jurors in the N-PTP and BNP conditions had significantly larger mean distortion scores than jurors in the ANP, APN, and BPN conditions (see Table 2), $F_s(1, 115) = 33.30$ and 29.97 , $MSE = 0.36$, $ps < .01$, $\omega^2s = .16$ and $.14$, respectively. Therefore, pure exposure to the negative stories, or blocked exposure in which the negative PTP was read first, resulted in the greatest PDD for the negative stories. Across the four *positive* PTP stories, jurors in the P-PTP, APN, and BPN conditions had distortion scores that were significantly larger than jurors in the ANP and BNP conditions (see Table 2), $F_s(1, 86) = 22.60$, 7.82 , and 15.23 , $MSE = .36$, $ps < .01$, $\omega^2s = .12$, $.04$, and $.08$, respectively. That is, jurors who read a positive PTP story first (or who read only positive PTP) demonstrated significantly more PDD for the positive stories, suggesting a

primacy effect.

Contrary to our expectations, exposure to PTP did not have a significant effect on mean PDD scores across all seven witness testimonies or across the four prosecution witnesses (see Table 3), $F_s(6, 200) = 1.11$, 1.83 , and $.20$, $MSEs = 0.62$, 1.60 , and 1.86 , $ps > .09$, respectively.

3.3. Hypothesis 3: Guilt Measures

Two measures of jurors' decisions on guilt were analyzed in this study: verdicts and guilt ratings. Chi squares were conducted to test our hypotheses regarding the verdict measure. A one-way ANOVA (PTP: N-PTP, P-PTP, ANP, APN, BNP, BPN or U-PTP) and contrast statements were conducted to test our guilt rating hypotheses. Exposure to PTP had a significant effect on juror verdicts and guilt ratings, $\chi^2(6, N = 207) = 14.54$, $V = .27$, $F(6, 200) = 3.10$, $MSE = 25.87$, $\omega^2 = .06$, $ps < .01$.

3.3.1. Hypothesis 3A: Pure PTP Conditions

The first set of comparisons for the guilt measures addressed the pure PTP conditions, N-PTP, P-PTP, and U-PTP. As expected, jurors exposed to negative PTP were more likely to vote guilty and provide higher guilt ratings than jurors in the P-PTP condition (see Table 4), $\chi^2(1, N = 59) = 7.46$, $V = .36$, $F(1, 57) = 11.68$, $MSE = 25.87$, $\omega^2 = .05$, $ps < .01$. Although the differences in verdicts and guilt ratings between U-PTP jurors and those in the N-PTP or P-PTP conditions did not reach statistical significance, $\chi^2s(1, N = 59$ and $58) = 2.07$ and 1.76 , $ps > .07$, $F_s(1, 57) = 3.35$ and 2.48 , $MSE = 25.87$, $ps > .07$, the verdict distributions are consistent with our predictions that negative PTP would lead to a pro-prosecution bias and positive PTP to a pro-defense bias (see Table 4). In addition, the proportion of guilty verdicts for the N-PTP and P-PTP conditions is similar to those found in past research by the first author suggesting that the smaller cell sizes in the current study may be responsible for these nonsignificant effects[7,8].

3.3.2. Hypothesis 3B: Mixed PTP Conditions -Blocked

Jurors in the *blocked* PTP conditions (BNP and BPN) were expected to demonstrate a primacy effect in which early PTP would have a greater impact on verdicts and guilt ratings than later PTP. As expected, the verdicts and guilt ratings of jurors in the BNP condition (received negative PTP first) and the N-PTP condition did not significantly differ (see Table 4), $\chi^2(1, N = 60) = 0.66$ and $F(1, 58) = 1.25$, $MSE = 25.87$, $ps > .27$; whereas BNP jurors were significantly more likely to vote guilty and have higher guilt ratings than P-PTP jurors (see Table 4), $\chi^2(1, N = 59) = 3.85$, $V = .26$, $F(1, 57) = 5.34$, $MSE = 25.87$, $\omega^2 = .02$, $ps < .05$. Jurors in the BPN condition (received positive PTP first) did not significantly differ from P-PTP or U-PTP jurors on verdicts or guilt ratings (see Table 4), $\chi^2(1, N = 59) = 0.91$ and 0.15 , $F(1, 57) = 1.63$ and $.10$, $MSE = 25.87$, $ps > .20$; whereas BPN jurors were significantly less likely to vote guilty and had lower guilt ratings than N-PTP jurors, $\chi^2(1, N = 59) = 3.36$, $V = .24$,

$F(1,58) = 4.65$, $MSE = 25.87$, $\omega^2 = .02$, $ps < .05$. Examination Table 4 reveals that the BPN jurors had verdict distributions that were most similar to U-PTP jurors; suggesting a leveling of PTP bias. Therefore, blocked exposure to differently valenced PTP resulted in a primacy effect for verdicts and guilt ratings (early PTP having a greater effect than later PTP on these guilt measures) when jurors were exposed to negative PTP first, but a leveling of PTP bias was observed when positive PTP first was read first.

Table 4. Guilt Ratings (SD) and Verdict Frequencies (percentage) as a Function of Pretrial Publicity (PTP)

PTP Condition	Verdicts		
	Guilt Ratings	Not Guilty	Guilty
N-PTP	2.73 (2.54)	9 (30%)	21 (70%)
P-PTP	-1.79 (5.08)	19 (66%)	10 (34%)
ANP	-1.00 (4.88)	20 (67%)	10 (33%)
APN	-1.62 (5.07)	19 (66%)	10 (34%)
BNP	1.26 (5.09)	12 (40%)	18 (60%)
BPN	-0.10 (5.48)	16 (53%)	14 (47%)
U-PTP	0.31 (5.41)	14 (48%)	15 (52%)
Totals	N/A	109 (53%)	98 (47%)

Note. PTP = pretrial publicity, N-PTP = negative, P-PTP = positive, ANP = alternating with negative PTP first, APN = alternating with positive PTP first, BNP = blocked with negative PTP first, BPN = blocked with positive PTP first. For verdicts the row percentages appear in parentheses. For verdict totals the column and row percentages appear in parentheses.

3.3.3. Hypothesis 3C: Mixed PTP Conditions – Alternating

As expected, jurors in the alternating conditions (ANP and APN) were significantly more likely to vote *not* guilty and have lower guilt ratings than N-PTP jurors, $\chi^2s(1, N = 60$ and $59) = 8.08$ and 7.46 , $V = .37$ and $.36$, $ps < .01$, $Fs(1,59$ and $58) = 8.52$ and 10.80 , $MSE = 25.87$, $\omega^2 = .03$ and $.04$, $ps < .01$, respectively. Jurors in the alternating conditions did not significantly differ from jurors in the P-PTP or U-PTP conditions on verdicts or guilt ratings, $\chi^2s(1, N = 59$ and $58) = 0.01$, 0.00 , 2.04 and 1.76 , $ps > .21$, $Fs(1,58$ and $57) = 0.27$, 0.02 , 1.13 , and 2.09 , $MSE = 25.87$, $ps > .60$. Examination of Table 4 reveals that the verdict distributions for the alternating and P-PTP jurors were almost identical, suggesting the point-counterpoint presentation resulted in a pro-defendant (or pro-acquittal) bias. Finally, although jurors in the two alternating conditions read the exact same PTP stories as jurors in the BNP condition, BNP jurors were more likely to vote guilty than jurors in the two alternating conditions (ANP and APN; see Table 4), $\chi^2s(1, N = 59) = 7.46$ and 3.85 , $V = .36$ and $.26$, $ps < .05$, respectively.

4. Discussion

Before discussing the results, it is important once again to note that all of the jurors in the mixed conditions (blocked and alternating) read the exact same PTP stories (four negative PTP and four positive PTP stories). The only difference in these conditions was the order in which jurors read these

stories, and this order made a difference. For example, exposure to mixed PTP in a blocked fashion resulted in greater PDD during the PTP exposure phase than did exposure to mixed PTP in an alternating fashion. These results can be explained by Russo, Medvec, and Meloy's explanation of PDD as resulting from desires for *consistency* and *reduction of cognitive effort*[40]. In order to maintain consistency, new information must be supported by prior conclusions or past information. Distorting new information may ease its integration with previous information and also prevent the need to reevaluate previous information in light of inconsistent new information[40]. Research by Russo, Meloy, Carlson, and Yong found that need for consistency was the motivating factor for the distortion of information by decision makers[41]. In the present study, the initial exposure of blocked PTP jurors to four similarly valenced stories was likely to be enough for them to formulate conclusions (e.g., decide on a case leader) and create a desire for consistency. Jurors in the alternating condition did not receive enough uninterrupted consistent information to formulate any strong conclusions (decide on a case leader). Instead, the point-counterpoint presentation of the alternating PTP stories was likely to force them to reevaluate previous information in the light of new inconsistent information.

It is not clear why we did not find similar results for PDD during the trial phase of the experiment. Examining the PDD means during trial (see Table 3) there appears to be a tendency for greater distortion of prosecution witnesses for N-PTP jurors and somewhat greater distortion for BNP jurors; suggesting some carry-over of the pro-prosecution bias in these conditions. That being said, PDD does appear to be greatly reduced during the trial as compared to PTP exposure phase for the blocked and pure PTP conditions. To our knowledge there is no other research examining PDD during exposure to PTP and trial. It is possible that the combination of questioning mock-jurors about their leaders during both PTP and trial exposure resulted in jurors becoming aware of their bias and taking steps to reduce it. Unfortunately, this reduction in PDD did not appear to carry over to verdicts and guilt ratings.

The verdicts and guilt ratings of alternating jurors were almost identical to those of P-PTP jurors. These finding can be explained by the story model[19]. The story model posits that jurors can construct more than one story, but one story usually emerges as the best explanation of events. To explain how jurors choose the most acceptable story, the story model posits three *certainty factors*: coverage, coherence and uniqueness[22]. *Coverage* refers to the amount of evidence accounted for by a particular story. *Story coherence* is determined by the consistency, plausibility, and completeness of the story. If more than one story is deemed high in both coherence and coverage, the uniqueness of either story is compromised, and therefore jurors' confidence in either story is weakened[22]. In the alternating conditions, the coverage for the prosecution and defense stories should be approximately equivalent and the coherence of both of these stories would be compromised due to the conflicting nature

of the negative and positive PTP. Thus, the alternating conditions may have raised reasonable doubt due to jurors receiving two contradicting stories that were equally plausible. The end result of this contradiction may have been that the alternating jurors did not know which story to believe and hence were acquittal prone.

Based on the Story Model and the PDD theory we expected jurors in the blocked conditions to demonstrate a primacy effect, with the PTP stories read first having the greatest impact on verdicts[17,19]. The initial exposure of blocked PTP jurors to four similarly-valenced stories was likely to be enough for them to formulate a story about the crime (innocent vs. guilty) and decide on a leader (defendant or prosecution). Therefore, the blocked jurors were likely to interpret new information (PTP and trial) in a way that supported this story and their leader, which should lead to verdicts that favor the side that was presented first. The verdict results for the blocked jurors who read negative PTP first support our primacy effect hypotheses in that their verdicts and guilt ratings most closely resembled those of N-PTP jurors. The blocked jurors receiving the positive PTP first did not demonstrate a primacy effect in that their verdicts most closely resembled those of the U-PTP jurors, suggesting amelioration or leveling of PTP bias. Taken together these results suggest that, unlike the alternating conditions in which the positive PTP was able to counteract the effects of the negative PTP on verdicts and guilt ratings, when positive PTP was presented last in the blocked conditions it was not successful in counteracting the effects of the negative PTP.

As noted above, recency effects were found for blocked jurors' choice of case leader during the PTP exposure phase, but primacy or leveling effects were found for trial verdicts. The alternating jurors also demonstrated recency effects for case leader. Although the alternating jurors in the ANP and APN conditions differed greatly in who they indicated would ultimately win the trial after reading story eight, their final verdict distributions were almost identical. The different effects of PTP timing on these two decisions can be explained by differences in the experimental conditions surrounding them.

According to the attention decrement hypothesis, experimental conditions influence whether primacy or recency effects are observed[30]. If the participants are only required to make a final judgment, primacy effects are likely, as decreased attention may be paid to later information. When participants are required to make multiple judgments they may increase their attention to later information, resulting in recency effects. In addition, research has shown that recency effects are evident when people make immediate judgments based on conflicting information, but when a delay is instituted primacy effects are observed[27-29]. In the present study, case leader judgments were a multiple-judgment task, which were made immediately following exposure to each piece of information (PTP story). Although the trial verdict response followed a number of case leader responses, it is the only verdict decision that jurors provided. In addition, there

was a week or more delay between the final PTP story and the verdict decisions. Research suggests that this delay should result in a reduction of recency effects[23] along with evidence of primacy effects[24-26], and this is what we found for the blocked jurors who received the negative PTP first. Blocked jurors receiving positive PTP first did not demonstrate a primacy effect for verdicts, but rather a leveling effect in which neither type of PTP bias was evident in their verdicts.

4.1. Limitations

The current research, like all mock-juror research, has limitations related to ecological validity. Although our stimuli consisted of an actual murder trial and the PTP that surrounded it, this trial was edited to run 30 minutes. Therefore, this trial is much shorter than actual trials, which can last for days if not weeks[42,43]. In addition, the verdict decisions that our mock-jurors made did not impact a real defendant's life, resulting in a less relevant or important decision than those of actual jurors. Additionally, actual jurors would not be asked a series of questions after each episode of PTP exposure. Having mock-jurors answer these questions could have influenced the PTP's effect on their decisions. Importantly, our mock-jurors did not deliberate, and it is not clear whether deliberations would reduce or increase PTP bias associated with mixed PTP exposure. Also,

it is not clear how deliberating with differently exposed jurors (e.g., pure, mixed, and not exposed) would impact individual juror bias.

The present study used college students as mock-jurors, which may limit the generalizability of our results. Research examining legal decisions of college students and community members at large has typically shown little if any difference[44,45], though other research suggest that college samples may not generalize well to other adults[46,47].

5. Conclusions

Even with limitations noted above the research presented in this paper offers a number of important implications and introduces a new method for exposing jurors to PTP. One important implication of this study is that the timing of conflicting PTP matters. For the defendant, it is important not to leave negative PTP unchallenged. Doing so could result in bias against the defendant becoming so strong that it is difficult, if not impossible, to overcome. In contrast, combating negative PTP with positive PTP in a timely fashion may not only reduce or eliminate the negative PTP bias, but could result in a pro-defense/acquittal bias. The effectiveness of combating one type of PTP bias (negative PTP) with the administration of another type of PTP (positive PTP) is likely due to its ability to reduce predecisional distortion and allow for the creation of an equally cohesive story regarding the case. Finally, the current research suggests that in cases involving juror exposure to conflicting PTP, polling jurors

immediately following PTP exposure as to who they believe will ultimately win at trial may not provide an accurate measure of how PTP will impact juror verdicts.

In conclusion, future research should expand on the research presented here by using other trials and their associated PTP in order to explore whether the current finding generalize to other crimes and defendants. In addition, due to the fact that juries and not jurors make final decisions regarding guilt it is important to explore how deliberations will affect the influence of PTP timing on jury decisions. Clearly more research is needed to explore the effects of both PTP

timing and valence on both juror and jury decisions.

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APPENDIX

Appendix A. Pretrial Publicity Conditions

PTP Condition	Story 1	Story 2	Story 3	Story 4	Story 5	Story 6	Story 7	Story 8
Pure: N-PTP	N1	N2	N3	N4	N5	N6	N7	N8
Pure: P-PTP	P1	P2	P3	P4	P5	P6	P7	P8
Pure: U-PTP	U1	U2	U3	U4	U5	U6	U7	U8
Alternating: ANP	N2	P1	N3	P5	N5	P7	N8	P8
Alternating: APN	P1	N2	P5	N3	P7	N5	N1	N8
Blocked: BNP	N2	N3	N5	N8	P1	P5	P7	P8
Blocked: BPN	P1	P5	P7	P8	N2	N3	N5	N8

Note. All of the mock-juror participants were exposed to eight pretrial publicity (PTP) stories via an online survey tool. This exposure was spaced over 10 to 12 days and the order of story presentation for each condition is indicated in the table above. The participants in the four mixed conditions all read the same eight PTP articles, but the presentation order of these articles varied across conditions. The letter indicates type of story: N = negative, positive, and U = unrelated. The number indicates which story: story 1 through 8.

Appendix B. Sample of Items from the Negative PTP, Positive PTP, and Unrelated News Stories

Negative PTP Facts	Positive PTP Facts	Unrelated News Stories
Dan Bias remarried 10 months after the death of his first wife Lise.	Dan and Lise were planning a second honeymoon.	Renee Godshalk arrested for embezzling child support payments
Lise Bias did not like guns and was unlikely to have shot herself to death.	Dan didn't want a gun, but Lise insisted on having one for self-defense.	Exactly how much is missing is still undetermined, but it could be as much as \$84,000.
Dan said Lise choose her career over having a family and this angered him.	Dan and Lise were planning to have a baby.	Domestic relations wasn't balancing its check-book on time; theft unnoticed.
Dan has never shown any emotion about Lise's death.	A doctor stated that Dan did not act like a man who shot his wife.	Checks were held for weeks, months, or years before depositing.
The couple frequently argued which often started after Dan had been drinking.	After five years of marriage the couple was still acted like newlyweds	Godshalk took another \$54,493 under another.
Dan Bias had been violent toward women in past.	Lise's college stated that he has never done anything to hurt anybody	Mothers were complaining they weren't receiving checks; fathers had receipts.

Note. For *NJ v. Bias* Trial the defendant is Dan and the victim is Lise.

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