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Effects of Juror Instructions and Mindset as Facilitators of Cognitive Decision-Making

-Kayo Matsuo* and Yuji Itoh*

Juror instructions are provided to jurors to inform them regarding the ways in which they can evaluate evidence in a trial. However, the effectiveness of the instructions varies on the basis of the jurors' information processing strategies. Moreover, when the jurors fail to comprehend and obey the instructions, they may be influenced by heuristic cues such as inflammatory evidence and negative emotions, rendering biased decisions. Mindset theory (Gollwitzer et al., 1990) postulates that a deliberative mindset is involved in objective impartial information processing, and mindset manipulation can influence unrelated subsequent tasks. The present study investigated the effect of juror instructions and a deliberative mindset on decision-making and anger in an emotion-laden mock trial. Assumption was that mock jurors should render not guilty verdict since no sufficient evidence to render guilty verdict was presented. The results demonstrated that mock jurors in the deliberative mindset were less angry than mock jurors in the neutral mindset. Further, mock jurors in the deliberative mindset rendered guilty verdicts less frequently than mock jurors in the neutral mindset when they were not provided the instructions, while the frequency of rendering guilty verdicts between mock jurors in the two conditions did not differ when the instructions were provided. The effects of the juror instructions and cognitive processing on juror decision-making are discussed.

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Key words: mock juror, juror instructions, mindset, decision-making, anger

Effects of juror instructions and mindset as facilitators of cognitive decision-making

In a trial, jurors are presented a substantial amount of information including witness statements and juror instructions. Although jurors are required to consider all types of information objectively, doing so may be difficult without the appropriate knowledge. When individuals do not possess knowledge on an issue, they cannot deliberate information in an appropriate manner (Chen & Chaiken, 1999). Therefore, knowledge regarding the laws is an essential factor in the thorough assessment of the evidence in a trial. To educate laypersons regarding the laws, the courts provide juror instructions, defining the crime charges (i.e., substantive laws) and an appropriate evaluation of various types of evidence (i.e., procedural laws) (Smith, 1991). Jurors are thereby expected to comprehend the instructions and apply them while rendering a verdict. Notably, the effectiveness of juror instructions can vary on the basis of their complexity.

Juror instructions

The purpose of juror instructions is to inform jurors regarding the ways in which they can evaluate evidence, that is providing the jurors with the necessary knowledge to identify and remember relevant facts (Smith, 1991). Although these instructions impart the guidelines for evaluating evidence during a trial, jurors often do not comprehend the instructions because of the usage of legal jargon, unfamiliar language, and lengthy sentences (Benson, 1985; Ellsworth, 1989). When standard instructions are modified into simpler versions or include additional statements that clarify the meaning, the jurors' comprehension increases (Frank & Applegate, 1998; Otto, Applegate, & Davis, 2007; Shaked-Schro-

er, Costanzo, & Marcus-Newhall, 2008; Smith & Haney, 2011). A recent study argued that merely simplifying the language did not enhance jurors' comprehension; however, disentangling the conceptual complexity while maintaining the amount of information led to better juror comprehension (Baguley, McKimmie, & Masser, 2017). Therefore, simple provision of the instructions to laypersons was not observed to aid them in assessing evidence deliberately, but these instructions may be effective when paraphrased in simple forms.

Furthermore, jurors may fail to develop a basis of knowledge structure as they cannot sufficiently comprehend the juror instructions. This situation may lead jurors to attend to heuristic cues such as credentials of an expert witness (Baguley, McKimmie, & Masser, 2017). For example, individuals without knowledge perceived an expert messenger to be more favorably than a nonexpert messenger, and individuals with knowledge were not influenced by source cues and perceived expert and nonexpert messengers equally (Ratneshwar & Chaiken, 1991).

Another heuristic cue that possibly emerges in a trial is inflammatory evidence such as victim impact statements (VIS). When inflammatory evidence is presented, laypersons may have difficulty remaining unbiased (Douglas, Lyon, & Ogloff, 1997; Myers, Lynn, & Arbuthnot, 2002). VIS is a type of testimony in which a victim or a victim's family expresses their physical and psychological sufferings as a result of the incident. Although VIS does not prove the defendant's culpability, it sometimes arouses jurors' negative emotions such as anger and leads them to render biased decisions (Matsuo & Itoh, 2017; Salerno & Bottoms, 2009; Tsoudis & Smith-Lovin, 1998; Whalen & Blanchard, 1982). Several studies have also demonstrated that anger mediates the inflammatory evidence and mock jurors' decisions (Bright & Goodman-Delahunty, 2006; Douglas, Lyon, & Ogloff, 1997; Feigenson, Park, & Salovey, 2001; Paternoster & Deise, 2011). These results may be explained by the affect-as-information hypothesis: Emotion that emerges as a result of an evaluation of the information at hand becomes a part of the information for making a decision (Forgas, 1995; Schwarz & Clore, 1983). Angry individuals often carry their anger over into punitive judgments toward a target person (Lerner, Goldberg, & Tetlock, 1998); therefore, jurors may unknowingly rely on their emotions induced by the inflammatory evidence and consequently render a biased decision when they do not sufficiently comprehend the juror instructions.

Matsuo and Itoh (2017) investigated the effects of juror instructions on the verdict decision in a trial containing VIS. Mock jurors were assigned to one of the three conditions, namely, general, full, or no instructions. Mock jurors in the general instructions condition received four basic instructions selected from the 39th code of lay judges. Mock jurors in the full instructions condition received a limiting instruction on emotional evidence along with four basic instructions. After listening to the trial transcript, all mock jurors rendered the verdict. At the time of analysis, mock jurors were divided in accordance with a high or low in need for cognition (NFC). NFC is an individual predisposition to a tendency to enjoy cognitive activity. Individuals high in NFC are more motivated to deliberate information compared with individuals low in NFC, who tend to rely on heuristic cues (Cacioppo & Petty, 1982; See, Petty & Evans, 2009). Therefore, mock jurors high in NFC were assumed to comprehend (i.e., apply) the juror instructions better and render an appropriate verdict (i.e., not guilty for the mock case since evidence to convict the defendant was not sufficient) compared with mock jurors low in NFC. The results revealed that the proportion of the guilty verdict was significantly less among mock jurors high in NFC compared with those low in NFC. In the full instructions condition, mock jurors high in NFC obeyed the limiting instruction more frequently than did those low in NFC. However, no significant difference was observed in the verdict decision between jurors high and low in NFC in the general and no instructions conditions. These results implied that the effectiveness of the juror instructions, particularly, the limiting instruction, depended on how individuals process information in that jurors who tend to deliberate information carefully

would comprehend and apply the instructions in a better manner.

Selecting only jurors who engage in careful information processing would be undesirable. By contrast, an advantage would be if all selected jurors were deliberative and objective. Although individual predispositions are relatively stable characteristics and unlikely manipulated, strategies of information processing might be manipulated by some means. Thus, when jurors are directed toward a deliberative information processing, differences in information processing strategies they adopt may be converged to a same direction. Consequently, regardless of individual predisposition, jurors might improve their comprehension and apply the instructions to the given case.

Mindset theory

According to the mindset theory, two sequential phases are the prerequisite to an action, namely, predecisional and postdecisional phases. Each phase requires different mindsets or information processing. In the predecisional phase, individuals are in a deliberative mindset to decide on a goal to pursue. In the postdecisional phase, individuals are in an implementing mindset to decide how the chosen goal is implemented (Gollwitzer, Heckhausen, & Steller, 1990). Individuals in the deliberative mindset assess desirability of the goal and evaluate its feasibility in an impartial and objective manner to make satisfactory goal decisions. Individuals in the implementing mindset evaluate the chosen goal and its feasibility in a positive and optimistic manner (Fujita, Gollwitzer, & Oettingen, 2007; Gollwitzer, Heckhausen, & Steller, 1990). Another distinctive feature of deliberative and implementing mindsets is openness to information. The implementing mindset is associated with selective information processing because it directs to implement the chosen goal. The deliberative mindset, by contrast, is less biased and more open-minded to all sources and types of information (Büttner et al., 2014; Fujita, Gollwitzer, & Oettingen, 2007).

Although mindset theory explains distinct information processing at

the time of choosing a goal (i.e., deliberative mindset) and the time of achieving a chosen goal (i.e., implementing mindset), several studies have demonstrated a carryover effect of the mindsets to unrelated subsequent tasks. For example, individuals in the deliberative mindset focus on a wider breadth of a visual stimulus (i.e., an optical illusion task), and individuals in the implementing mindset attended to narrower breadth, suggesting a similarity in information processing between the deliberative mindset and global processing and between the implementing mindset and local processing (Büttner et al., 2014). Other example revealed that individuals in the deliberative mindset predicted longer time for a task completion compared with those in the implementing mindset, that is, the deliberative mindset leads individuals toward more realistic decision-making, and the implementing mindset leads them toward more optimistic decision-making (Brandstätter, Giesinger, Job, & Frank, 2015).

In juror trials, jurors are expected to evaluate evidence and all other information in an even-handed, objective manner to render the verdict. The information processing strategy, in this case, is assumed to be involved in the deliberative mindset. Because the mindset activated in one task can be applied to a subsequent task, the present study manipulated activation of the deliberative mindset in a cognitive task and applied it in a mock juror trial for the verdict decision.

In summary, juror instructions are provided to prepare jurors to evaluate the evidence carefully (Smith, 1991). However, the effectiveness of the instructions depends on what type of information strategies individuals adopt even if the juror instructions are presented in a simple form (Matsuo & Itoh, 2017). When jurors do not obey the instructions, they are likely to be influenced by heuristic cues such as VIS and their own negative emotions (Baguley, McKimmie, & Masser, 2017; Matsuo & Itoh, 2017). Nevertheless, an evaluation of the evidence on the basis of the instructions may be possible if jurors develop a deliberative mindset beforehand by engaging in a cognitive activity. Furthermore, mock jurors retaining a deliberative mindset may be motivated to be cautious about

VIS even if they are not presented the instructions. Because mock jurors in the deliberative mindset evaluate evidence in an analytical manner, an assumption is that they would arouse less anger compared with those without any mindset manipulation (i.e., neutral mindset).

Accordingly, the present study investigated the effect of juror instructions and mindset on verdict decision and anger in mock juror trials.

Methods

Participants

In total, 104 adults (47 males, 57 females) who lived and/or worked in the Osaka region participated in this experiment. Participants' ages were between 22 and 80 years (M=48.96, SD=15.00). Of all, 47% of participants were full-time workers, 33% part-time workers, 9% homemakers, 5% unemployed, 4% other, and 2% did not report their occupation. Participants' education levels were as follows: 6% were junior high school graduates, 44% high school graduates, 36% college and/or higher education graduates, 12% other, and 2% did not report their education level. Participants received 1,600 yen for their participation.

Design

A 2 (mindset: deliberative, neutral) \times 2 (instructions: with, without) between-subjects design was employed. The experiment was conducted either individually or in a group with up to 11 participants. Participants were randomly assigned to one of the four conditions.

Materials

Task to manipulate mindset. The cognitive task used in Büttner et al., (2014) and Gollwitzer, Heckhausen, and Steller (1990) was adopted to manipulate the participants' deliberative mindset. Participants in the deliberative mindset condition were asked to refer to their unsolved personal problems, select one, and evaluate whether they should make

a change decision (e.g., "Should I change my job?"); they assessed the advantages and disadvantages as they made the change in decision and wrote those down on a sheet of paper. They were allocated 8 minutes for this task. Then, participants were asked to imagine what would happen 2 years from that moment if they made the change and were asked to write that response on the next page. They were allocated 7 minutes for this task. Participants in the neutral mindset condition viewed a number of black and white photographs of nature scenes projected on a screen in front of them. They were allocated 15 minutes for this task.

Assessment of negative emotions. The Juror Negative Affect Scale (JUNAS), developed by Bright and Goodman-Delahunty (2006), was employed to assess participants' pretrial and post-trial negative emotions. The scale comprised 30 adjectives of negative affect in four subcategories, anger, sadness, anxious, and disgust. The original JUNAS is in English and has a 5-point scale. The JUNAS was translated from English to Japanese. The Japanese version JUNAS comprised a 7-point scale (1 = not at all, 7 = extremely). The purpose of the 7-point scale was to improve the precision of the assessment of participants' negative emotions. The JUNAS was presented to participants twice: before and after the trial. The listing order of the adjectives differed between the two times, and they were counterbalanced to distribute to participants.

Juror instructions. Four general instructions and one limiting instruction were provided to inform participants the ways in which they could evaluate evidence on the basis of law (Matsuo & Itoh, 2017). The instructions were (1) presumption of innocence, (2) proof beyond a reasonable doubt, (3) the burden of proof on prosecutors, and (4) the principle of adjudication based on evidence. A limiting instruction was presented along with instruction (4): Do not consider the emotions expressed by witnesses as evidence to assess the defendant's culpability. These instructions were read slowly in a conversational manner by a female narrator and were audio recorded.

Trial transcript. A transcript of a fictional murder case (Matsuo

& Itoh, 2016, 2017) was presented to participants. In these transcripts, the prosecutor appealed that a homeless male defendant had randomly murdered a female college student to obtain food and shelter in prison. Although the defendant had initially confessed to committing the crime, he later denied and pleaded not guilty. The evidence provided by the prosecutor was all situational, such as an eyewitness account of the defendant in a dimly lit area near the location of the crime and earwitness account of a man's shout and a woman's cry near the murder scene. No physical evidence was included. Emotional evidence was included: The victim's sister was on the witness stand and conveyed the circumstances of the family after the incident, the victim's characteristics (warm-hearted, friendly, and hardworking), and the victim's schedule for the day on which the incident occurred. The evidence included in the transcript was not sufficiently decisive to convict the defendant; therefore, a guilty verdict would not be rendered if the evidence was evaluated on the basis of the juror instructions. The transcript was audio recorded by a male narrator, except for the emotional evidence, which was audio recorded by a female narrator. The female narrator was different from the one who presented the juror instructions. All the trial materials were in a written form and projected on a screen in front of participants while being played to them over speakers to allow participants to verify what they were hearing through reading.

Post-trial questionnaire. The post-trial questionnaire solicited information regarding the trial from participants. Participants were asked to render a guilty or not guilty verdict, along with their level of anger toward the defendant, using a 7-point scale ($1 = not \ at \ all$, 7 = extremely). The questionnaire also included questions regarding participants' demographics.

Procedure

The experiment commenced after participants signed the consent form. Participants completed a mindset manipulation task, according to their assigned conditions; thereafter, they responded to the JUNAS, which assessed their pretrial negative emotions. Prior to the mock trial, participants were informed that they would play the role of lay judges. Participants in the with-instructions condition were provided with the trial instructions. This part was omitted for participants in the without-instructions condition. Then, all participants were presented with the trial transcript. Further, participants in the with-instructions condition were again provided with juror instructions that were exactly the same as those that they had been provided with before the trial. The duration of the presentation was approximately 23 minutes for the without-instructions group and 30 minutes for the with-instructions group. Then, participants responded to the post-trial JUNAS and questionnaire. The experiment ended when the experimenter debriefed participants, emphasizing that the murder trial was bogus.

Results

Of the 104 participants, one participant did not provide a verdict decision, which was the main dependent variable. Therefore, this participant was excluded, resulting in an analysis of 103 participants.

Preliminary analyses of negative emotion

To compare the pretrial negative emotions of participants in the deliberative and neutral mindset conditions, an independent t-test was conducted on the pretrial JUNAS scores (Cronbach's α =.97). No difference was observed between the two conditions, t(101) = 1.50, p = .14 (deliberative: M = 2.04, SD = 1.12; neutral: M = 1.72, SD = 1.05). An independent t-test conducted on the anger subcategory of the pretrial JUNAS scores (Cronbach's α = .92) demonstrated no significant difference between the conditions, t(101) = 1.25, p = .22 (deliberative: M = 1.75, SD = 1.08; neutral: M = 1.51, SD = 0.91). These results suggest that overall negative emotions and anger did not influence participants

before the mock trial.

A comparison of the pretrial (M=1.88, SD=1.09) and the post-trial (M=3.22, SD=1.52, Cronbach's $\alpha=.98$) JUNAS scores revealed a significant difference, t(102)=-8.30, p<.001, d=1.01. A comparison of the pretrial (M=1.63, SD=1.00) with post-trial (M=3.08, SD=1.58, Cronbach's $\alpha=.94$) JUNAS anger subcategory scores demonstrated a significant difference t(102)=-8.95, p<.001, d=1.10. This finding indicates that the trial transcript increased participants' anger and overall levels of negative emotion. Thus, the use of the trial transcript to create an emotion-laden mock trial situation was successful.

Verdict decisions

Overall, 64 participants rendered guilty verdicts, and 39 rendered not guilty verdicts. Table 1 shows the number of participants who rendered guilty and not guilty verdicts in each condition. Chi-square tests demonstrated no significant main effect of mindset, $\chi^2(1, n = 103) = .88, p =$.23 (deliberative: 57.69%; neutral: 66.67%) and no significant main effect of instructions, $\chi^2(1, n = 103) = 1.81, p = .13$ (with-instructions: 55.77 %; without-instructions: 68.63%) on the proportion of guilty decisions. Elaboration analyses using chi-square tests demonstrated a significant difference between the with- and without-instructions conditions in the neutral mindset condition, $\chi^2(1, n = 51) = 3.92, p = .045, \varphi = .28$, that is, participants with the instructions (53.85%) rendered a guilty verdict significantly less often than participants without the instructions (80.00%). A marginally significant difference was observed between the deliberative and neutral mindsets in the without-instructions condition, $\chi^2(1, n = 51)$ = 2.95, p = .078, φ = .24, with participants in the deliberative mindset condition (57.69%) rendering guilty verdicts less often than participants in the neutral mindset condition. The results suggest that when individuals are provided instructions or are in a deliberative mindset, they reflect on information to render a verdict; however, they do not consider information sufficiently when in a neutral mindset without knowledge.

	With-Instructions	Without-Instructions	Total
Neutral Mindset	14 / 12	20 / 5	34 / 17
	(53.85%)	(80%)	(66.67%)
Deliberative Mindset	15 / 11	15 / 11	30 / 22
	(57.69%)	(57.69%)	(57.69%)
Total	29 / 23	35 / 16	64 / 39
	(55.77%)	(68.63%)	(62.14%)

Table 1. Numbers of Participants who Rendered Guilty/ Not Guilty Verdicts.

Note. Percentages of guilty verdicts are in parentheses.

Anger

Arousal of anger following the trial. A two-way between-subjects ANOVA was conducted on anger scores on post-trial JUNAS. There was a significant main effect of mindset, F(1, 99) = 4.70, p = .03, $\eta^2 = .05$ (deliberative: M = 2.75, SD = 1.53; neutral: M = 3.42, SD = 1.58), no significant main effect of instructions, F(1, 99) = .99, p = .32 (with: M = 2.94, SD = 1.59; without: M = 3.24, SD = 1.58), and no interaction between mindset and instructions, F(1, 99) = .02, p = .90 (Table 2).

Because of the difference in verdicts between the neutral and deliberative mindsets in the without-instructions condition, the next analysis focused on the difference in arousal of anger between the two conditions. Participants in the neutral and deliberative mindsets demonstrated a significant increase in anger from pretrial to post-trial, t(24) = 7.21, p < .001, d = 1.85 (pretrial: M = 1.44, SD = .86), and t(25) = 3.24, p < .002, d = .56 (pretrial: M = 1.77, SD = 1.12), respectively. A one-tailed t-test with Bonferroni correction ($\alpha = .025$) was conducted on the increase in anger from pretrial to post-trial between the two conditions, and a significant difference was observed, t(49) = 2.06, p = .02, d = .58. Mean increment of anger from pretrial to post-trial was larger for participants in the neutral mindset condition (M = 2.12, SD = 1.47) compared with those in the deliberative mindset condition (M = 1.16, SD = 1.82), suggesting that participants in the neutral mindset condition experienced more anger during the trial than those in the deliberative mindset condi-

	With-Instructions	Without-Instructions	Total
Neutral Mindset	3.29 (1.77)	3.56 (1.37)	3.42 (1.58)
Deliberative Mindset	2.58 (1.32)	2.93 (1.73)	2.75 (1.53)
Total	2.94 (1.59)	3.24 (1.58)	3.08 (1.58)

Note. Standard deviations are in parentheses. JUNAS = Juror Negative Affect Scale.

Table 3. Mean Scores on Feelings of Anger Toward the Defendant.

	With-Instructions	Without-Instructions	Total
Neutral Mindset	4.96 (1.66)	5.48 (1.33)	5.22 (1.51)
Deliberative Mindset	4.38 (1.96)	4.77 (1.37)	4.58 (1.68)
Total	4.67 (1.82)	5.12 (1.38)	4.89 (1.63)

Note. Standard deviations are in parentheses.

tion.

Anger toward defendant. Regarding anger toward the defendant, a regression analysis revealed that anger toward the defendant was a significant predictor of rendering a guilty verdict, B=1.86, Wald=20.40, p<.001, $\hat{v}=.78$. Results of a two-way between-subjects ANOVA demonstrated a significant main effect of mindset, F(1, 99)=4.16, p=.04, $\eta^2=.04$ (deliberative: M=4.58, SD=1.68; neutral: M=5.22, SD=1.51), no significant main effect of instructions, F(1, 99)=2.05, p=.16 (with: M=4.67, SD=1.82; without: M=5.12, SD=1.38), and no interaction between mindset and instructions, F(1, 99)=.05, p=.83 (Table 3). Participants in the neutral mindset condition were angrier toward the defendant than those in the deliberative mindset condition.

Discussion

The present study investigated the effects of juror instructions and mindset on mock jurors' verdict decision and anger. The overall results indicated that when participants were in a neutral mindset and not provided the instructions, they most likely rendered a guilty verdict. Although no main effect of the instructions or the mindset was observed, the elaboration analyses demonstrated that the proportion of guilty decisions was higher in the neutral mindset, without-instructions condition than in the neutral mindset, with-instructions, and the deliberative mindset, without-instructions conditions. The results revealed that the deliberative mindset and the juror instructions might influence laypersons to reflect on information to make a cognitive decision. Thus, the deliberative mindset may help jurors consider evidence in an analytical manner even when they do not comprehend juror instructions thoroughly, and similarly, juror instructions would help them evaluate evidence deliberatively when they are not in the deliberative mindset.

The present study could not discern whether the effect of the juror instructions was due to presenting this in comprehensible everyday language, providing twice—before and after the trial—or a combination of both methods. Although the underlying mechanisms of the effect could not be identified, the finding suggests that the juror instructions aid the jurors render a cognitive decision even when they are not in the deliberative mindset. Further research is required to be more deeply explored the effect of the juror instructions, such as a comparison of the instructions between easy-to-comprehend and ordinary manners, on different mindsets.

Anger, including anger toward the defendant, occurred significantly among participants in the neutral mindset compared with participants in the deliberative mindset. Notably, the mean scores for anger toward the defendant were considerably larger than for the mean scores on the anger subcategory on the post-trial JUNAS. Although both used a 7-point scale to evaluate participants' anger, they responded differently on each scale. This finding implies that individuals could closely focus on their own feelings to evaluate when a target for anger was specified.

The present study hypothesized that when mock jurors were provided

the instructions or in the deliberative mindset, their anger would be relatively lower, and consequently, they would be less likely to render a guilty verdict. The results demonstrated that mock jurors in the neutral mindset, without-instructions condition expressed higher levels of anger and rendered more guilty verdicts than the mock jurors in other conditions. A comparison between the neutral and deliberative mindsets in the without-instructions condition demonstrated that participants in both types of mindsets increased in anger, but the increment from the pretrial to the post-trial was smaller for participants in the deliberative mindset. Correspondingly, participants in the deliberative mindset rendered a guilty verdict less often than those in the neutral mindset. These results suggest that individuals in the deliberative mindset were better able to inhibit the arousal of anger to some degree and self-regulate the negative emotion relatively well to render a careful decision. Unfortunately, the current results did not reveal the direction of effect in relation to whether individuals were less influenced by anger because they evaluated information in an extremely careful manner, or they evaluated information very carefully because they were less influenced by anger.

The present study demonstrated the effects of juror instructions and mindset on verdict decisions and anger in an emotion-laden situation. The results suggest that a deliberative mindset and the juror instructions may influence individuals to exert cognitive effort and overcome heuristic cues in emotional situations. Although anger was observed to lead individuals toward heuristic decisions, the juror instructions and the deliberative mindset would be effective in inhibiting the arousal or influence of anger.

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