

Title	Difference in motivation influences mock jurors' decision and emotion : effects of need for cognition and accountability
Sub Title	
Author	松尾, 加代(Matsuo, Kayo) 伊東, 裕司(Itō, Yūji)
Publisher	慶應義塾大学大学院社会学研究科
Publication year	2019
Jtitle	慶應義塾大学大学院社会学研究科紀要 : 社会学心理学教育学 : 人間と社会の探究 (Studies in sociology, psychology and education : inquiries into humans and societies). No.87 (2019.) ,p.65- 78
JaLC DOI	
Abstract	Although all information given to jurors is identical, the predisposition to make a cognitive effort (need for cognition: NFC; Cacioppo & Petty, 1982) generates differences in decision-making. Thus, jurors low in NFC would tend to consider evidence less thoroughly than those high in NFC. Also, the former individuals may be influenced by emotion-laden information more often than the latter. However, when accountability as an external motive is imposed, low NFC jurors might deliberate information more carefully, and differences in the degree of consideration between those high and low in NFC could be reduced. The present study investigated the effects of accountability and NFC on verdict decisions. The manipulation of accountability was achieved by requesting participants to explain their decision in front of a video camera. The results demonstrated that differences in verdict decisions between those high and low in NFC were not found when jurors were held accountable, while differences were apparent when they were not held accountable. Comparable results were found when assessing anger arousal as a consequence of reading the trial transcript which included emotional evidence. Finally, the function of internal and external motives for juror's thinking and the impact upon their decision-making is discussed.
Notes	論文
Genre	Departmental Bulletin Paper
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN0006957X-00000087-0065

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

Difference in Motivation Influences Mock Jurors' Decision and Emotion: Effects of Need for Cognition and Accountability

松尾加代*・伊東裕司**

Kayo Matsuo and Yuji Itoh

Although all information given to jurors is identical, the predisposition to make a cognitive effort (need for cognition: NFC; Cacioppo & Petty, 1982) generates differences in decision-making. Thus, jurors low in NFC would tend to consider evidence less thoroughly than those high in NFC. Also, the former individuals may be influenced by emotion-laden information more often than the latter. However, when accountability as an external motive is imposed, low NFC jurors might deliberate information more carefully, and differences in the degree of consideration between those high and low in NFC could be reduced. The present study investigated the effects of accountability and NFC on verdict decisions. The manipulation of accountability was achieved by requesting participants to explain their decision in front of a video camera. The results demonstrated that differences in verdict decisions between those high and low in NFC were not found when jurors were held accountable, while differences were apparent when they were not held accountable. Comparable results were found when assessing anger arousal as a consequence of reading the trial transcript which included emotional evidence. Finally, the function of internal and external motives for juror's thinking and the impact upon their decision-making is discussed.

Keywords: mock juror decision-making, motivation, accountability, need for cognition, emotional arousal (模擬裁判員の判断, 動機づけ, 説明責任, 認知欲求, 感情の喚起)

* 慶應義塾大学先導研究センター

** 慶應義塾大学文学部

A number of evidence is presented during a trial, and jurors are required to reflect evidence thoroughly for rendering a verdict decision. Although jurors are all responsible for the decision, their motive to make an effort might not be equal. An individual predisposition to engage in cognitive activity refers to need for cognition (NFC; Cacioppo & Petty, 1982) that individuals high in NFC hold an internal motive to process information deliberately whereas those low in NFC would not be relatively high in motive to do so. Therefore, information processing would be different between high and low in NFC, and it consequently makes a gap in decision making between the two groups. Although individuals low in NFC are relatively less motivated to make a cognitive effort, their motivation might be enhanced by imposing them an external motive as accountability, the expectation of justifying one's action to other. When individuals low in NFC are imposed accountability, the gap between high and low NFC may be filled. If this is a case, then the jurors might make an effort the comparable degree for rendering a decision regardless of the difference in NFC. The present study investigated the effect of NFC and accountability on mock jurors' verdict decision making.

Need for Cognition

Cacioppo and Petty (1982) introduced NFC as "the tendency for an individual to engage in and enjoy thinking." Individuals high in NFC tend to seek cognitive activities and make mental efforts to deliberate context of a message in problem solving and decision making while those low in NFC show an opposite tendency and rely on other people's opinions or heuristic cues such as messenger's attractiveness (Cacioppo, Petty, Kao, & Rodriguez, 1986; Cacioppo, Petty, & Morris, 1983; Haugtvedt, Petty, & Cacioppo, 1992). Cacioppo, Petty, Feinstein, and Jarvis (1996) reviewed over 100 empirical studies that explored variety of individual differences in NFC and found that NFC was related to educational level and information recall. The findings are reasonable since NFC is intrinsic motivation toward cognitive activities, and individuals high in NFC tend to elaborate information then memory trace becomes consequently strong. To the contrary, the review showed that NFC was not related to intelligence. Although NFC seems to be related to intelligence both theoretically and empirically, the researchers state that it is not intellectual ability; therefore, NFC is distinguishable from intelligence. In addition, NFC was found to be unrelated to gender.

Need for cognition is a "stable individual difference" and falls on some point of a continuum scale from high to low (Cacioppo & Petty, 1982). NFC is an interindividual variation; thus, an individual's motivation level is compared to another's that the level for individuals high in NFC is relatively higher than that for those low in NFC.

A number of studies have found that compared to mock jurors low in NFC, those high in NFC obeyed juror instructions, considered evidence carefully and rendered deliberate legal decisions (McAuliff & Kovera, 2008; Mancini, 2011; Meredith & Brimacombe, 2010; Salerno & McCauley, 2009; Sommers & Kassin, 2001; Vinson, Costanzo, & Berger, 2008). In a study that investigated the effects of NFC & juror instructions (Matsuo & Itoh, 2017), participants were assigned to one of three instruction conditions (no instructions, general instructions [presumption of innocence, proof beyond a reasonable

doubt, the burden of proof on prosecutors, and principle of adjudication based on evidence], and full instructions [a limiting instruction (i.e., caution) about emotional evidence plus the general instructions]). All participants were provided a mock murder trial transcript in that no critical evidence was presented to convict the defendant. It also included emotional evidence explaining how much victim's family was affected by the incident. The results showed that mock jurors who were lower in NFC were more likely to render guilty decision than those who were higher in NFC when they were given any instructions. This tendency was more salient in the full instructions condition while no effect of NFC was found in the no instructions condition. Similar results emerged on arousal of anger toward the defendant. These are comparable to other research findings that individuals low in NFC are more prone to regard emotion-based messages (Haddock, Maio, Arnold, & Huskinson, 2008; Lee & Thorson, 2009; Petty, Schumann, Richman, & Strathman, 1993; Vidrine, Simmons, & Brandon, 2007). Because individuals low in NFC tend to pay attention to and rely on peripheral information or heuristic cues rather than to deliberate main context (Cacioppo, Petty, Feinstein, & Jarvis, 1996), mock jurors low in NFC paid keen attention to the emotional evidence as they were provided the limiting instruction, they aroused anger and consequently rendered guilty verdict. This study suggested that although jurors low in NFC received clear instructions to disregard inflammatory information, they had trouble to inhibit heuristic processing spontaneously.

The difference in decision making between high and low NFC would derive from a difference in a motive to process information; individuals low in NFC would not have a strong internal motive to evaluate information spontaneously. While clear instructions do not play a role enough for those low in NFC to inhibit heuristic processing spontaneously, accountability may play a role as inhibiting heuristic processing compulsively because they are required to explain how they deliberate the matter upon they receive the clear instructions. Therefore, it may be possible for low NFC mock jurors to deliberate evidence when accountability is imposed.

Accountability

Being accountable means to have a duty to deal with and be expected to justify one's beliefs, feelings, and actions to others (Lerner & Tetlock, 1999). When individuals are expected to justify their own decision, they are motivated to evaluate information carefully and try to understand themselves how and why they made the decision so that they are able to be ready for later explanation. Thus, accountability requires individuals to be self-critical and to reduce overattribution, stereotypic impression formation and the use of heuristic cues (Chaiken, 1980; Kruglanski & Freund, 1983; Lerner, Goldberg, & Tetlock, 1998; Lerner & Tetlock, 1999; Paolini, Crisp, & McIntyre, 2009). This implies that accountability influences information processing as individual engages as difference in degree of the NFC does so. Individuals who hold accountability may need to engage in an analytical effortful processing whereas individuals who do not hold accountability may incline to engage in an intuitive automatic processing (Cacioppo, Petty, Feinstein, & Jarvis, 1996; Palmer & Feldman, 2005). Therefore, although individuals low in NFC are not internally motivated to process information carefully comparing

to those high in NFC, they may engage in an analytical processing as they are imposed accountability.

Although accountability would influence individuals' cognitive efforts, its effect depends on when they become aware of the need to justify and who their audience is (Lerner & Tetlock, 1999; Tetlock, 1985). When individuals know about their accountability before receiving information, they exert cognitive efforts to evaluate the information for making a decision; however, when they are assigned their accountability after receiving information, they would make an effort to rationalize the decision they have made. In a mock juror study, participants in the pre-decisional accountability condition were not influenced by the order of the evidence presented (evidence of anti-defendant and then pro-defendant), and so the likelihood of rendering guilty verdict did not differ regardless of which type of evidence was presented first, whereas mock jurors in the post-decisional accountability and no accountability conditions rendered guilty verdicts more often when anti-defendant evidence was presented first (Tetlock, 1983).

Furthermore, accountable individuals must be prevented from knowing their prospective audience's view. Knowing the audience's view may lead them to make a decision to conform to the audience rather than exert cognitive efforts for considering the topic from multiple perspectives (Chen, Shechter, & Chaiken, 1996; Lerner & Tetlock, 1999). Therefore, operation of accountability could be successful when individuals know about their accountability before engaging in a task and do not know their audience's perspective (Palmer & Feldman, 2005; Tetlock & Kim, 1987). Applying these propositions about the effectiveness of accountability to a juror trial setting, the present study investigated the effects of accountability and NFC in verdict decision making.

The Present Study

The present study followed some parts of Matsuo and Itoh's (2017) study. All participants received both the general juror instructions and the limiting instructions about the emotional evidence (the full instructions condition). The accountability manipulation was operationalized in terms of videotaping: Accountable participants were expected to justify their decisions in front of a video camera. The videotaping method has been employed in several studies and successfully manipulated participants' accountability (Brett & Efrat, 1995; Davis, Stasser, Spitzer, & Holt, 1976; Tetlock & Kim, 1987). By combining the accountability and NFC, the present study predicted that mock jurors who are low in NFC (low internal motive) would make cognitive efforts for rendering verdict decision as they are accountable for their decisions (high external motive). Accordingly, the difference in the verdict decision between mock jurors high and low in NFC would be reduced as accountability is involved. The present study also investigated the functions of NFC and accountability on arousal of negative emotions given that the emotional evidence was included in the trial scenario. Emotional evidence would arouse mock jurors' negative affect such as anger, and the affect might influence their decision making (Bright & Goodman-Delahunty, 2006; Feigenson, Park, & Salovey, 2001). Cacioppo, Petty, Feinstein, and Jarvis (1996) stated that affect influences differently on high and low NFC individuals. Although high NFC individuals are aroused by affective information, their decisions are not directly influenced but mediated

by their thoughts. On the other hand, low NFC individuals receive direct influence of affect because affective information as well as the affect they experience can be a heuristic cue for making decisions (Matsuo & Itoh, 2016). Moreover, past study revealed that higher NFC mock jurors experienced less anger toward the defendant (Matsuo & Itoh, 2017). Nevertheless, when low NFC mock jurors are imposed accountability and make a cognitive effort to bring a deliberate decision, they may feel anger less and the decisions may be consequently influenced less by the feeling of anger even if they arouse it some extent (Epstein & Pacini, 1999; Tiedens & Linton, 2001). The present study predicted that a difference on verdict decision and arousal of anger between high and low in NFC would be smaller as mock jurors were imposed accountability comparing to those who were not imposed accountability.

Methods

Participants

Eighty-three adults (36 males, 47 females) who lived and/or worked in the Tokyo area participated in this experiment. All participants were non-students, and their ages ranged between 20 and 73 years ($M=39$, $SD=12.70$) who are eligible, in terms of age, to implement the duty as a juror. Thirty-five percent were full-time workers, 39% part-time workers, 22% homemakers, 2% unemployed, and 2% other. Participants' educational levels were as follows: 7% junior high school graduates, 35% high school graduates, 55% college and/or higher education graduates, and 2% other. Participants received 1,215 yen or 3,000 yen depending on from where they were recruited (flier or a temp agency, respectively), for their participation. There should not be any differences in performance between the two groups since all participants were fully explained the purpose of this study and agreed to participate in the study. Before coming to the experiment, participants were told that they might be videotaped in the experiment; thus, only individuals who agreed beforehand with the circumstance participated in this experiment.

Design

A 2 (NFC: high, low) x 2 (videotaping: video, no video) between-subjects design was used. The experiment was conducted with 1 to 5 participants at a time. Participants were randomly assigned to one of the two videotaping conditions and were later classified as either high or low NFC according to their scores on the NFC questionnaire. This study was approved by the research ethics committee at graduate school of letters and human relations, Keio university (Approval number: 11059).

Materials

Need for Cognition Scale (NCS). A Japanese version of the Need for Cognition Scale (Kouyama & Fujihara, 1991) was adopted. It consists of 15 questions from the original scale that are translated into Japanese language with a 7-point scale (1=not at all, 7=extremely).

Juror Negative Affect Scale (JUNAS). Participants' negative affect before and after reading the trial transcript was assessed by JUNAS (Bright & Goodman-Delahunty, 2006). It measures mock ju-

rors' negative affect of anger, fear/anxiety, disgust, and sadness with 30 adjectives translated into Japanese (Matsuo & Itoh, 2016). Scale was modified from a 5-point to a 7-point (1=not at all, 4=neutral, 7=extremely) to assure sensitivity. The adjectives were randomly listed on two pages.

Trial transcript. A mock murder case that has been used in several other studies (Matsuo & Itoh, 2016, 2017) was employed. A female student was stabbed to death by a stranger on a street at night. A male defendant claimed his innocence while the prosecutor presented some evidence to prove his commitment of murdering her. However, the prosecutor's presentation included no critical evidence to convict the defendant; therefore, guilty decision should not be rendered when evidence is considered carefully based on the juror instructions. Emotional evidence was presented at the end of the trial by the victim's sister expressing her feeling and describing victim's characteristics in a mournful voice. Also, juror general instructions (presumption of innocence, proof beyond a reasonable doubt, the burden of proof on prosecutors, principle of adjudication based on evidence) as well as a limiting instruction about emotional evidence were presented to all participants before and after the trial transcript.

Post-trial questionnaire. Participants responded their verdict decision (guilty or not guilty) and probability of defendant's culpability on a 10-point scale (1=extremely weak, 10=extremely strong). They also responded about anger toward the defendant on a 7-point scale (1=not at all, 7=extremely) and which evidence they regarded for making verdict decision. In addition, participants responded to questions "I made the verdict decision intuitively" and "I made the verdict decision analytically" on a 7-point scale (1=not at all, 7=extremely). At the end of the questionnaire, participants provided demographic information.

Procedure

Before signing the consent form, participants who were assigned to the video condition were told that the videotaping would occur at the end of the experiment, whereas participants who were assigned to the no video condition were told that the videotaping was canceled. After signing the consent form, participants completed a Japanese version of the NCS. Then participants were told what tasks would follow: Responding to a mood questionnaire, listening to a trial scenario, and responding to post-trial questionnaires. The experimenter also explained to participants in the video condition that the videotaping would follow after the last questionnaire so that they would state their verdict decision as well as the reasons for their decisions individually in front of a video camera for a couple of minutes. Participants were explained the purpose of the video as being for psychologists and law practitioners who would like to observe and study how much and how well lay judges can assert their opinions to others. The videotaping instruction was omitted for participants in the no video condition. After these explanations all participants responded to the pre-trial JUNAS to assess their current affects.

Participants were instructed to play the role of lay judges and listened to the trial transcript. The juror instructions were also presented before and after the trial. The transcript and juror instructions

were projected in a written form in front of participants while they listened to them. After the trial, participants first responded to the post-trial JUNAS listing the 30 adjectives differently from the pre-trial one and then the post-trial questionnaire. At the end of the experiment, participants in the video condition were told that the videotaping would not occur, and all participants were debriefed and thanked.

Results

Three participants who did not follow the experiment instructions were removed; therefore, 80 participants were included in the analysis.

Manipulation check

Participants in the video condition were asked by an experimenter at the end of the experiment whether they had believed that the videotaping would occur. All of them responded that they had believed it would. Therefore, the videotaping manipulation was successful.

Negative emotions assessed with the JUNAS

A comparison of the mean scores of all responses on the JUNAS pre-trial ($M=1.86$, $SD=1.17$) and post-trial ($M=3.02$, $SD=1.50$) revealed a significant difference, $t(79)=-7.25$, $p<.001$, $d=.86$, suggesting that the trial transcript caused an increase in participants' negative affect.

Need for cognition

The mean score on the NCS for 80 participants was 64.94 ($SD=10.86$; $Mdn=65.50$; range=33-95). The results seemed comparable to those from similar sample of 150 in Tokyo area (age: 20-70; $M=66.83$; $SD=11.88$; $Mdn=66$; range=42-95) (Matsuo & Itoh, 2017); thus, the current results would not be far different from those in the past study. Correlations of the NCS score with participants' age and with sex were not significant ($r=.106$, $p=.35$; $r=.19$, $p=.09$, respectively); therefore, NFC was not affected by age and sex. Participants were classified as high or low NFC based on the mean score of 65, resulting in 40 high and 40 low in NFC. The number of participants in each condition in terms of high and low NFC was 21 high and 19 low in the video condition, and 19 high and 21 low in the no video condition.

Verdict decisions

Overall, 39 participants rendered guilty verdicts, and 41 participants rendered not guilty verdicts. Table 1 shows the number of participants who rendered guilty and not guilty verdicts for each condition. Chi-square analyses showed a marginally significant effect of NFC, $\chi^2(1, N=80)=2.45$, $p=.09$, $\phi=.18$ (high: 40.00%; low: 57.50%), and no significant effect of videotaping, $\chi^2(1, N=80)=1.25$, ns (video: 42.50%; no video: 55.00%), on the number of guilty decisions. Elaboration analyses showed no interactions between NFC and videotaping on the number of guilty verdicts. However, there was a close to

Table 1 Number of Participants who Rendered Guilty /Not Guilty Verdicts

		Videotaping	No Videotaping	Total
NFC	High	8/13 (38.09%) <i>n</i> =21	8/11 (42.11%) <i>n</i> =19	16/24 (40.00%) <i>n</i> =40
	Low	9/10 (47.37%) <i>n</i> =19	14/ 7 (66.67%) <i>n</i> =21	23/17 (57.50%) <i>n</i> =40
	Total	17/23 (42.50%) <i>n</i> =40	22/18 (55.00%) <i>n</i> =40	39/41 (48.75%) <i>n</i> =80

Note. Percent of guilty verdicts are in parentheses. NFC=need for cognition.

marginally significant toward guilty decisions between high NFC (42.11%) and low NFC (66.67%) in the no video condition ($\chi^2(1, N=40)=2.43, p=.107$), while the frequency of the guilty decision was about the same between low and high NFC participants in the video condition ($\chi^2(1, N=40)=0.35, ns$; high NFC: 38.09%; low NFC: 47.37%). Although not statistically significant, the direction in these results appeared consistent with the prediction.

To analyze participants' perceptions about the probability of the defendant's culpability, two-way between-subjects analysis of variance (ANOVA) was conducted. Results indicated a marginally significant effect of NFC, $F(1, 75)=3.00, p=.088, \eta^2=.04$ (high: $M=5.85, SD=2.64$; low: $M=6.85, SD=2.38$), but no significant effect of videotaping, $F(1, 75)=0.76, ns$ (video: $M=6.08, SD=2.45$; no video: $M=6.85, SD=2.38$), or the interaction of NFC and videotaping, $F(1, 75)=1.21, ns$. To test a difference between high and low in NFC in terms of accountability, planned comparisons with Bonferroni correction ($\alpha=.025$)¹ were conducted with *t*-tests. Given that a guilty decision is made by the perception of high probability about the defendant's culpability, the analysis was conducted with one-tailed *t*-test. Results showed a marginally significant difference between high and low NFC in the no video condition, $t(37)=1.96, p=.029, d=.63$ (high NFC: $M=5.78, SD=2.69$; low NFC: $M=7.38, SD=2.42$), but the difference between high and low NFC disappeared in the video condition, $t(38)=0.46, ns$ (high NFC: $M=5.90, SD=2.66$; low NFC: $M=6.26, SD=2.26$). This result was comparable to that for verdict decision.

Frequency of using the emotional evidence in decisions

Among all 80 participants, seven people (8.75%) used the emotional evidence to make a verdict decision. All of those who referred to the emotional evidence were low in NFC and mostly in the no video condition (6 out of 7). Because numbers in each cell were small and there were several 0s, statistical analysis such as chi-square test was omitted.

Emotions toward defendant

To analyze the feeling of anger toward the defendant, two-way between-subjects ANOVA was conducted. The results showed a significant effect of NFC on the feeling of anger toward the defendant, $F(1, 75)=4.71, p=.033, \eta^2=.06$ (high: $M=3.93, SD=1.76$; low: $M=4.82, SD=1.83$), but no significant effect of videotaping, $F(1, 75)=1.28, ns$, and no interaction of NFC and videotaping, $F(1, 75)=0.29, ns$. Planned

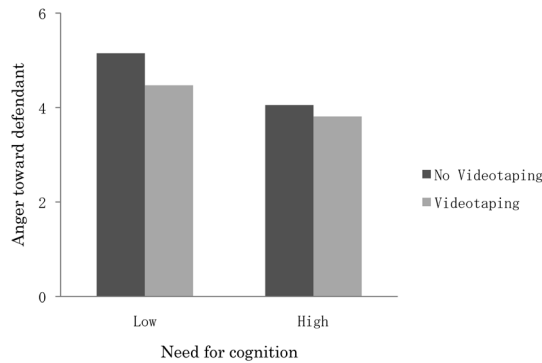


Figure 1. Response on anger toward the defendant (7-point)

comparisons with Bonferroni correction ($\alpha=.025$)¹ revealed a marginally significant difference between high and low NFC in the no video condition, $t(37)=1.88$, $p=.035$, $d=.60$ (high: $M=4.05$, $SD=2.01$; low: $M=5.15$, $SD=1.63$), but no significant difference in the video condition, $t(38)=1.18$, ns (high: $M=3.81$, $SD=1.54$; low: $M=4.47$, $SD=2.01$). The results suggest that mock jurors low in NFC were more angry toward the defendant than those high in NFC especially when they were not accountable (Figure 1).

Perception of engaging in intuitive and analytical decision making

To analyze participants' perception of engaging in intuitive decision making and analytical decision making for the verdict decision, two-way between-subjects ANOVA was conducted. Results showed a significant effect of NFC, $F(1, 74)=6.93$, $p=.01$, $\eta^2=.09$, on intuitive decision making. The mean score was higher for low NFC ($M=3.72$, $SD=1.75$) than high NFC ($M=2.67$, $SD=1.69$). There was no significant effect of videotaping, $F(1, 74)=0.18$, ns (video: $M=3.08$, $SD=1.19$; no video: $M=3.30$, $SD=1.80$), or interaction of NFC and videotaping, $F(1, 74)=0.75$, ns . Planned comparison with Bonferroni correction ($\alpha=.025$)¹ revealed a significant difference between high and low NFC in the no video conditions, $t(38)=2.58$, $p=.014$, $d=.81$ (high: $M=2.58$, $SD=1.68$; low: $M=3.95$, $SD=1.69$), but no significant difference between high and low NFC in the video conditions, $t(36)=1.20$, ns (high: $M=2.75$, $SD=1.74$; low: $M=3.44$, $SD=1.82$). The results suggest that participants low in NFC perceived themselves to engage in an intuitive decision making strategy more frequently than those high in NFC, but this trend appeared only among participants in the no video condition. These tendencies were similar to those on verdict decision, perception of the defendant's culpability and anger toward the defendant.

On the measure of analytical decision making, there was no effect of NFC, $F(1, 74)=0.38$, ns (high: $M=5.46$, $SD=1.37$; low: $M=5.26$, $SD=1.25$), no effect of videotaping, $F(1, 74)=1.52$, ns (video: $M=5.55$, $SD=1.13$; no video: $M=5.18$, $SD=1.45$), and no interaction of NFC and videotaping, $F(1, 74)=.08$, ns . The results suggest that participants in the different conditions equally perceived themselves to make a decision analytically. Also, the mean scores of the perception of the analytical decision making were higher than those of the intuitive decision making in all conditions. This implies that although participants perceived themselves engaging in the intuitive decision making to some extent, they did to

weigh the analytical decision making more heavily to make a legal decision, which is a desirable strategy in the trial setting.

Discussion

Investigating the effects of NFC and accountability on mock jurors' verdict decision and feelings of anger, the present study found an effect of NFC on the verdict decision to some extent. A number of past studies have shown a robust effect of NFC on the verdict decision as an internal motive on decision making process (Mancini, 2011; Meredith & Brimacombe, 2010; Salerno & McCauley, 2009; Sommers and Kassin, 2001); however, the effect of NFC was moderated to the marginally significant when external motivation of accountability was combined in the study design.

Statistical analyses conducted in the present study showed no significant interaction between NFC and accountability on the verdict decision as well as the probability of the defendant's culpability; thus, the results are inconclusive to support the hypothesis clearly that difference in verdict decision between high and low in NFC might be reduced as mock jurors are imposed accountability. Other statistical approaches such as handling NFC as a continuous variable for regression analysis, dividing it into three groups as high, medium, and low NFC, or taking only upper and lower 20% of NFC scores into the analysis were not successful either to find interaction between NFC and accountability on the dependent variables.

Still, the results from the planned analysis showed the moderation effect of accountability on NFC. They demonstrated that although verdict decisions between high and low in NFC tended to differ when mock jurors were not accountable, the difference between the two groups disappeared when they were accountable. This tendency was consistent with the result on the probability of the defendant's culpability: When they were not accountable, individuals low in NFC inclined to estimate higher probability of the defendant's culpability than those high in NFC, but the difference disappeared when they were accountable. These results are along toward the hypothesis and suggest a possibility to support that accountability would be a valid external motive to compensate for low internal motive and help individuals exert cognitive effort for examining the evidence carefully. Statistically insignificant results in the present study would derive from small sample size. Because the present analyses showed the effect size medium to large; therefore, robust effects may be expected as more number of participants participated in the study.

Moreover, participants who took into account the emotional evidence were all low in NFC, and six out of seven were in the unaccountable condition. This suggests that accountable low NFC mock jurors paid more attention to and referred to the trial instructions (i.e., the limiting instructions about the emotional evidence) than unaccountable low NFC mock jurors. This result is noteworthy because in the study of Matsuo and Itoh (2017) a number of low NFC mock jurors regarded the emotional evidence as a factor to determine the verdict decision when they received the limiting instructions; however in the present study, despite the fact that all mock jurors received the limiting instructions about the emotional evidence, most low NFC individuals did not take into account the evidence when they

were accountable. In sum, accountability could be an effective strategy to some extent to induce cognitive effort for individuals low in NFC. Yet, given that accountability did not influence high NFC individuals, its effect might be limited. An internal motive (predisposition) may perform stronger than an external motive to influence cognitive effort.

On the measure of anger toward the defendant, there was a main effect of NFC in that low NFC mock jurors were more angry toward the defendant than high NFC mock jurors; however, overall interaction between NFC and accountability was not found. Similar to the results of the analysis for the verdict decisions, the planned comparison revealed that unaccountable low NFC individuals were angrier than accountable low NFC individuals were. These results suggested the possibility that when individuals were motivated either internally (NFC) or externally (accountability), experience of anger was lowered. However, when they were not motivated internally and/or externally, they might feel angry and become emotional. A number of studies found a mediation effect of anger between emotional evidence and punitive decision making (Bright & Goodman-Delahunty, 2006; Clore, Schwarz, & Conway, 1994; Douglas, Lyon, & Ogloff, 1977; Feigenson, Park, & Slovey, 2001; Lerner, Goldberg, & Tetlock, 1998; Matsuo & Itoh, 2017; Paternoster & Deise, 2011); therefore, unaccountable low NFC mock jurors in the present study also might feel anger and perceive the defendant culpable as exposed to the emotional evidence, and consequently rendered guilty verdicts.

Participants were also asked about their decision making strategies (i.e., information processing strategies). Compared to mock jurors high in NFC, those who were low in NFC more frequently perceived themselves as engaging in intuitive processing. However, the planned analysis showed that the difference between low and high in NFC disappeared when they were accountable for their decisions while the difference remained when they were not accountable. The results suggested that when individuals are low in motive both internally and externally, they tend to engage in intuitive processing more than when they are high in motive both or either internally and/or externally. In contrast, no significant differences in analytical processing were found among the conditions. From a general perspective, emergence of the differences in intuitive processing among the conditions would expect the differences in analytical processing to some extent. In fact, however, the means for analytical processing were about the same in all conditions. This result can be explained by demand characteristics (Orne, 1962); participants wanted to appear to have engaged in analytical processing and to have deliberated the evidence for the verdict decision because such behavior seemed an appropriate manner in the current circumstance. Similar results were reported in a study of Lieberman (2002) that although a significant difference was found on a decision between participants in rational (i.e., analytical) and experiential (i.e., intuitive) processing, they perceived themselves to engage in analytical processing about same degrees. Therefore, the current results could be possible in terms of the view from the demand characteristics.

The present study investigated a moderation effect of accountability on the difference in mock jurors' decision making between high and low NFC. Combined with accountability, the effect of NFC did not appear as robust as it did in a number of past studies (Mancini, 2011; Matsuo & Itoh, 2017,

Meredith & Brimacombe, 2010; Salerno & McCauley, 2009; Sommers & Kassin, 2001). Although overall interaction between NFC and accountability was not found, the present study shed a light on possibility of accountability as a possible essential factor to make jurors low in NFC exert cognitive effort and to prevent them from arousal of anger. Future research is definitely necessary to examine the robustness of accountability effect whereby the present study did not find a statistical significance. Collecting more data (i.e., increasing the number of participants) may help this concern. Future study is also recommended with a use of another method to manipulate the level of accountability. Although the current method of videotaping seemed successful, other methods such as employing deliberations can build more ecologically valid settings. While all jurors are required careful decision making, their levels of motive in thinking differ from one another. Although such a predisposition difference exists, external factors may be able to cover the gap in some extent. Finding such factors is essential for implementing better legal system, and conducting psychology study can contribute to the system that is vital for our society.

Note

¹ Because the study interest was to observe the increase of anger but not decrease, the analysis was conducted with one-tailed *t*-test.

References

- Brett, P. W., & Efrat, N. (1995). The effect of motivation of judgment depends on the difficulty of the judgment. *Journal of Personality and Social Psychology, 68*, 581–594. doi: 10.1037/0022-3514.68.4.581
- Bright, D. A., & Goodman-Delahunty, J. (2006). Gruesome evidence and emotion: Anger, blame, and jury decision-making. *Law and Human Behavior, 30*, 183–202. doi: 10.1007/s10979-006-9027-y
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42*, 116–131. doi: 10.1037/0022-3514.42.1.116
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin, 119*, 197–253. doi: 10.1037/0033-2909.119.2.197
- Cacioppo, J. T., Petty, R. E., Kao, C. F., & Rodriguez, R. (1986). Central and peripheral routes to persuasion: An individual difference perspective. *Journal of Personality and Social Psychology, 51*, 1032–1043. doi: 10.1037/0022-3514.51.5.1032
- Cacioppo, J. T., Petty, R. E., & Morris, K. J. (1983). Effects of need for cognition on message evaluation, recall, and persuasion. *Journal of Personality and Social Psychology, 45*, 805–818. doi: 10.1037/0022-3514.45.4.805
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology, 39*, 752–766. doi: 10.1037/0022-3514.39.5.752
- Chen, S., Shecter, D., & Chaiken, S. (1996). Getting at the truth or getting along: Accuracy- versus impression- motivated heuristic and systematic processing. *Journal of Personality and Social Psychology, 71*, 262–275. doi: 10.1037/0022-3514.71.2.262
- Clore, G., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. Wyer & T. Srull (Eds.), *Handbook of social cognition* (2nd ed., vol. 1, pp. 323–417). Hillsdale, NJ: Erlbaum.
- Davis, J. H., Stasser, G., Spitzer, C. E., & Holt, R. W. (1976). Changes in group members' decision preferences during discussion: An illustration with mock juries. *Journal of Personality and Social Psychology, 34*, 1177–1187. doi: 10.1037/0022-3514.34.6.1177
- Douglas, K., Lyon, D., & Ogloff, J. (1997). The impact of graphic photographic evidence on mock jurors' decisions in

- a murder trial: Probative or prejudicial? *Law and Human Behavior*, *21*, 485–501. doi:10.1023/A:102482 3706560.
- Epstein, S., & Pacini, R. (1999). Some basic issues regarding dual-process theories from the perspective of cognitive-experiential self-theory. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 462–482). New York: Guilford Press.
- Feigenson, N. R., Park, J., & Slovey, P. (2001). The role of emotions in comparative negligence judgments. *Journal of Applied Social Psychology*, *31*, 576–603. doi: 10.1111/j.1559-1816.2001.tb02057.x
- Haddock, G., Maio, G. R., Arnold, K., & Huskinson, T. (2008). Should persuasion be affective or cognitive? The moderating effects of need for affect and need for cognition. *Personality and Social Psychology Bulletin*, *34*, 769–778. doi: 10.1177/01467208314871
- Haugtvedt, C. P., Petty, R. E., & Cacioppo, J. T. (1992). Need for cognition and advertising: Understanding the role of personality variables in consumer behavior. *Journal of Consumer Behavior*, *1*, 239–260. doi: 10.1016/S1057-7408(08)80038-1
- Kouyama, T., & Fujihara, T. (1991). A basic study of the need for cognition scale. *Japanese Journal of Social Psychology*, *6*, 184–192. doi: 110002785526
- Kruglanski, A. W., & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impression primacy, ethnic stereotyping, and numerical anchoring. *Journal of Experimental Social Psychology*, *19*, 448–468. doi: 10.1016/0022-1031(83)90022-7
- Lee, J.-G., & Thorson, E. (2009). Cognitive and emotional processes in individuals and commercial web sites. *Journal of Business and Psychology*, *24*, 105–115. doi: 10.1007/s10869-008-9087-8
- Lerner, J. S., Goldberg, J. H., & Tetlock, P. E. (1998). Sober second thought: The effects of accountability, anger, and authoritarianism on attributions of responsibility. *Personality and Social Psychology Bulletin*, *24*, 563–574. doi: 10.1177/0146167298246001
- Lerner, J. S., & Tetlock, P. E. (1999). Accounting for the effects of accountability. *Psychological Bulletin*, *125*, 255–275. doi: 10.1037/0033-2909.125.2.255
- Lieberman, J. D. (2002). Head over the heart or heart over the head? Cognitive experiential self-theory and extralegal heuristics in juror decision making. *Journal of Applied Social Psychology*, *32*, 2526–2553. doi: 10.1111/j.1559-1816.2002.tb02755.x
- Mancini, D. E. (2011). The CSI effect reconsidered: Is it moderated by need for cognition? *North American Journal of Psychology*, *13*, 155–174. doi: 10.1037/t04601-000
- Matsuo, K., & Itoh, Y. (2016). Effects of emotional testimony and gruesome photographs on mock jurors' decisions and negative emotions. *Psychiatry, Psychology and Law*, *23*, 85–101. doi: 10.1080/13218719.2015.10329541
- Matsuo, K., & Itoh, Y. (2017). The effects of limiting instructions about emotional evidence depend on need for cognition. *Psychiatry, Psychology and Law*, *24*, 516–529. doi: 10.1080/13218719.2016.1254588
- McAuliff, B. D., & Kovera, M. B. (2008). Juror need for cognition and sensitivity to methodological flaws in expert evidence. *Journal of Applied Social Psychology*, *38*, 385–408. doi: 10.1111/j.1559-1816.2007.00310.x
- Meredith, A., & Brimacombe, C. A. E. (2010). Alibi believability: The effect of prior convictions and judicial instructions. *Journal of Applied Social Psychology*, *40*, 1054–1084. doi: 10.1111/j.1559-1816.2010.00610.x
- Orne, M. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist*, *17*, 776–783. doi:10.1037/h0043424
- Palmer, J. K., & Feldman, J. M. (2005). Accountability and need for cognition effects on contrast, halo, and accuracy in performance ratings. *Journal of Psychology*, *136*, 119–137. doi: 10.3200/JRLP.139.2.119-138
- Paolini, S., Crisp, R. J., & McIntyre, K. (2009). Accountability moderates member-to-group generalization: Testing a dual process model of stereotype change. *Journal of Experimental Social Psychology*, *45*, 676–685. doi: 10.1016/j.jesp.2009.03.005
- Paternoster, R., & Deise, J. (2011). A heavy thumb on the scale: The effect of victim impact evidence on capital decision making. *Criminology*, *49*, 129–161. doi:10.1111/j.17459125.2010.00220.x.
- Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different

- roles for affect under high and low elaboration conditions. *Journal of Personality and Social Psychology*, *133*, 651–659. doi: 10.1080/00224545.1993.9713920
- Salerno, J. M., & McCauley, M. R. (2009). Mock jurors' judgments about opposing scientific experts: Do cross-examination, deliberation and need for cognition matter? *American Journal of Forensic Psychology*, *27*, 37–60. No doi
- Sommers, S. R., & Kassir, 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. doi: 10.1177/01461672012710012
- Tetlock, P. E. (1983). Accountability and the perseverance of first impressions. *Social Psychology Quarterly*, *46*, 285–292. doi: 10.2307/3033716
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly*, *48*, 227–236. doi: 10.2307/3033683
- Tetlock, P. E., & Kim, J. I. (1987). Accountability and judgment processes in a personality prediction task. *Journal of Personality and Social Psychology*, *52*, 700–709. doi: 10.1037/0022-3514.52.4.700
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, *81*, 973–988. doi: 10.1037/0022-3514.81.6.973
- Vidrine, J. L., Simmons, V. N., & Brandon, T. H. (2007). Construction of smoking-relevant risk perceptions among college students: The influence of need for cognition and message content. *Journal of Applied Social Psychology*, *37*, 91–114. doi: 10.1111/j.0021-9029.2007.00149.x
- Vinson, K. V., Costanzo, M. A., & Berger, D. E. (2008). Predictors of verdict and punitive damages in high-stakes civil litigation. *Behavioral Sciences and the Law*, *26*, 167–186. doi: 10.1002/bsl.807