



How power affects moral judgments: The role of intuitive thinking

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Power affects how people think about moral issues, and has been found to elicit deontological moral judgments. We hypothesized that powerholders' propensity to rely on intuitive thinking would trigger deontological moral choices. In two studies, power was induced by role simulation tasks and participants then made a judgment on a moral dilemma that did not involve bodily harm. In Study 1 memory cognitive load was manipulated to induce an intuitive processing style, and in Study 2 deliberation was induced by asking participants to deliver strong arguments. Results of Study 1 show that high power led to deontological judgments regardless of cognitive load, and cognitive load enhanced deontological preferences among powerless individuals. In Study 2 we found that deliberation shifted the judgments of powerholders toward utilitarianism. These results extend prior findings and reinforce the links between power and deontology. The findings suggest that powerholders' preference for deontological moral judgments is driven by their reliance on intuitive thinking.

Keywords

power; moral judgments; thinking style; intuition; deliberation; deontology; utilitarianism

Article Highlights

- We tested the role of cognitive thinking style as the mechanism underlying how power influences moral judgments.
- High power increased deontological moral judgments regardless of cognitive load.
- Cognitive load enhanced deontological preferences among powerless individuals.
- Deliberation shifted the moral judgments of powerholders toward utilitarianism.
- Findings suggest that powerholders' preference for deontological moral judgments is driven by intuitive thinking.

Powerholders spend a great deal of their time making decisions with moral implications. For example, the recent COVID-19 pandemic may have raised the dilemma of how to balance the equal right of life with limited resources for saving everyone's life. Policies about issues of this kind relate to deontology and utilitarianism moral theory. A *deontological decision* concerns existing principles, laws, norms, and rules, whereas the *utilitarian* alternative overrides these considerations if they do not provide the greatest good for most people in society (Darwall, 2003a, 2003b; Lammers & Stapel, 2009).

Researchers have found that power affects how people think about moral issues, instilling a preference for rules and regulations, and the application of those rules and regulations regardless of consequences (Gawronski & Brannon, 2020; Lammers & Stapel, 2009). Fleischmann et al. (2019) used a process dissociation technique to show that power increases deliberation, integration, and rule orientation, and that these thinking styles mediate the effects of power on deontological and utilitarian moral thinking orientation.

However, comparing the studies by Fleischmann et al. (2019) and Lammers and Stapel (2009), some unclear issues remain. Nearly all moral dilemmas used by Fleischmann et al. (2019) were classical sacrificial moral dilemmas, such as the trolley dilemma. Further, they focused on how power affected the percentages of deontological and utilitarian thinking processes in people's minds when they made moral judgments, not on the final moral choices themselves. Lammers and Stapel (2009) adopted moral dilemmas that did not involve harm to a human being, and showed that power can influence people's final choices in moral dilemmas. Thus, the influence of power on moral judgments differs according to the moral context. This raises two questions: whether intuitive and deliberative thinking have the same role in powerholders' moral judgments in dilemmas that do not involve harm to human beings, and how intuitive and deliberative thinking affect powerholders' final moral judgments.

We aimed to contribute to understanding of this phenomenon. Following Lammers and Stapel (2009), we focused on the final moral choices of powerholders and the powerless in dilemmas that do not involve harm and sacrifice, to examine the role of thinking style as the mechanism underlying the effect of power on moral judgments.

Power, Thinking Style, and Moral Judgments

The dual-process model posits that deontological judgments are typically driven by intuitive, automatic, and affective cognitive processes, whereas in judgments based on utilitarianism the greatest good for all parties is emphasized, and the judgment is associated with deliberative, cognitive, and effortful processes (Greene et al., 2001, 2004; Paxton et al., 2012). Emotion-related brain areas are activated during deontological decision making (Greene et al., 2001; Helion & Ochsner, 2018). Intuitive thinking has been found to relate to avoidability of harm, whereas need for cognition has been linked with considering a utilitarian motive for killing (Cushman et al., 2012; Hauser et al., 2007; Patil et al., 2020; Paxton et al., 2012). In other studies it was found that time pressure and cognitive load (simultaneously completing a digit-search task) decreased sensitivity to consequences and utilitarianism because people do not have the cognitive resources necessary to deliberate (Greene et al., 2008; Kroneisen & Steghaus, 2021).

Researchers have proposed a hybrid model in which both deontological and utilitarian thinking can be activated by intuition in the initial phase of reasoning, and posited that utilitarianism driven by deliberation follows the initial processing (Bago & De Neys, 2019; Bialek & De Neys, 2017). This model extends the classical dual-process model and increases understanding of the influence of intuition and deliberation on moral thinking. However, in these studies the focus was on the reasoning processes of decision making, not on the final judgment. Conversely, we aimed to investigate the role of cognitive processing in the final moral judgments of powerholders and the powerless. Thus, we adopted the link between intuition (deliberation) and deontology (utilitarianism) as posited in dual-process theory (Greene et al., 2001, 2004).

Power is commonly defined as asymmetric control over valued resources in a social relationship (Gawronski & Brannon, 2020). Especially in the social domain, powerful people often engage in automatic cognition. Reduced power increases controlled social cognition, because the powerless are vigilant in order to better predict the future and control outcomes (Fiske, 1993; Guinote, 2017; Keltner et al., 2003). Furthermore, having power affects how people make judgments, in that, compared to other people, powerholders are more likely to rely on intuition to make judgments (Uskul et al., 2016; Wolfin & Guinote, 2015).

Therefore, we hypothesized that power would affect cognitive processes, which would then affect moral judgments. Power enhances reliance on intuitive (vs. deliberative) thought processes, and this facilitates deontological moral judgments. This hypothesis is different from the finding by Fleischmann et al. (2019) that, in dilemmas involving harm to human beings, power increased deliberative thinking and this led to a more utilitarian thinking process and less deontological thinking. Presence of harm to life triggers intuitive aversion and leads to unconscious, quick disapproval of harming (Cushman et al., 2012; Greene et al., 2001; Hauser et al., 2007). However, powerholders experience less empathy toward others than do people who are powerless (van Kleef et al., 2008), and in dilemmas involving harm powerholders rarely experience arousal of emotion and intuition and are more likely to show utilitarian thinking. Dilemmas involving harm (e.g., the trolley dilemma) and dilemmas with no harm are very different contexts, and decision makers should follow different processes to make judgments (Kahane, 2015; Kahane et al., 2018).

The Current Research

As outlined above, Fleischmann et al. (2019) and Lammers and Stapel (2009) showed that power affects moral judgments differently in varying types of moral dilemmas. Therefore, we concluded that power has different effects on moral judgment in different moral contexts, and our aim was to examine how intuition and deliberation affect the final moral judgment choices of powerholders in the everyday life situations used by Lammers and Stapel (2009).

The research conducted by Lammers and Stapel (2009) was based on relatively innocuous everyday life situations (Moore et al., 2008). Dilemmas of this type tend to evoke the decision maker's deliberation, with an analysis of costs and benefits to oneself versus others (Moore et al., 2008), and should be distinguished from classical dilemmas involving bodily harm or death (e.g., the trolley dilemma and the footbridge dilemma; Greene et al., 2004; Hauser et al., 2007; Moore et al., 2008).

We designed Study 1 to verify that changes in thinking processing style can alter moral judgments, and thereby increase or decrease power-related differences in moral judgments. In Study 1 we employed the dilemma used in Study 3 of Lammers and Stapel (2009). Intuitive processing was induced through memory cognitive load (Körner & Volk, 2014). According to Greene et al.'s (2004, 2008) dual-process model of moral judgments, consuming cognitive resources can decrease deliberation and lead to difficulties in making utilitarian moral judgments. We expected that if the powerful use their intuition to think about moral issues even under no load, then cognitive-load tasks would not have much effect, if any, on subsequent judgments. In contrast, we expected that cognitive load would consume the cognitive resources of the powerless, thus increasing the preference for deontological judgments among these participants.

In Study 2 our aims were to further examine whether powerful individuals' moral judgments are associated with an intuitive processing style, and to compare moral judgments of high-power participants and their control counterparts in conditions in which deliberative thinking was or was not elicited. Here, we used deliberative thinking instructions to guide participants to think more about the moral dilemma. Participants in the deliberative-thinking conditions were told that they would give arguments and justification after making their judgment. Asking participants to deliver strong arguments has proven to be an effective way to induce deliberation (Johnson et al., 2016; Zheng et al., 2020) to increase utilitarian moral judgments (Paxton et al., 2012).

According to Greene et al.'s (2001) dual-process model of moral judgments, deliberative thinking can lead to increasing utilitarian moral judgments. If the association between high power and deontological moral judgments is reduced when deliberative thinking is elicited, this would provide further support for the causal role of automatic, intuitive reasoning on powerholders' preference for deontological moral thinking. We expected that in a control condition, the powerful would show a stronger preference for the deontological moral thinking style than would people without power. Crucially, this difference should be reduced or vanish entirely in the condition in which deliberative thinking has been elicited.

Study 1

Method

Participants and Design

The sample size was calculated according to the medium effect size ($\eta_p^2 = .25$), with an adequate power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. This yielded a minimum sample size of 128. In practice, more participants registered for the study than we had anticipated, and all who registered were included in the analysis. Thus, participants were 139 students (109 women, 30 men; $M_{\text{age}} = 22.18$ years, $SD = 4.66$; range = 15–49) at a university in the United Kingdom. All materials were presented in English. The sample was 40.3% European, 30.9% Chinese, 15.8% Asian, 3.6% Indian, 2.9% mixed-ethnicity, 2.2% Arab, 1.5% African, 1.4% Pakistani, and 0.7% Caribbean. They received credit or were compensated with GBP 2.50 (USD 3.40) for participation in the study. Participants were randomly assigned to one of four conditions (power: high vs. low; cognitive load: high vs. low) in this between-participants design. Data were collected via a Qualtrics (<https://www.qualtrics.com>) questionnaire.

Procedure

To manipulate power, participants first completed a written power-role simulation. They simulated a managing director (high-power condition) or an employee (low-power condition) in a marketing organization, and described what a typical day in their life would be like. To check the power manipulation, participants were asked to report their feelings about their roles in the simulation task on a 9-point Likert scale ($\alpha = .93$) ranging from 1 (*not at all*) to 9 (*very much*). The items were “I feel I can influence others,” “I feel I have a great deal of power in the situation,” and “I am dominant in the situation.”

We directly adopted the medical moral dilemma in Study 3 of Lammers and Stapel (2009, p. 283) about a man who is suffering from an incurable disease. Participants were presented with the doctor’s dilemma, that is, the decision whether to tell the patient about his illness directly according to the rule of hospital (deontological option), or to inform him after the patient’s dream holiday (utilitarian option). Half of the participants read the dilemma under the condition of cognitive load (a digit-memorizing task), and the other half read the dilemma and made a moral judgment without additional cognitive load. After reading the dilemma, participants were asked “What should Doctor Lawrence do?” They rated their attitude on a 9-point Likert scale ranging from 1 (*wait until after the holiday*; utilitarian judgment) to 9 (*inform the patient directly*; deontological judgment).

Cognitive load was manipulated by asking participants to memorize digits while reading the scenario. The moral dilemma was presented by two paragraphs. In the high-load condition participants were asked to memorize digits three times during the time that they were reading the two paragraphs of the scenario. Upon finishing reading the first paragraph, the digit-memorizing task appeared for the first time (see Figure 1). Participants completed the memorizing task again after reading the second paragraph. Subsequently, the moral dilemma question appeared on the screen for 4 seconds. Then, they completed the third digit-memorizing task before making their moral judgment on the dilemma question.

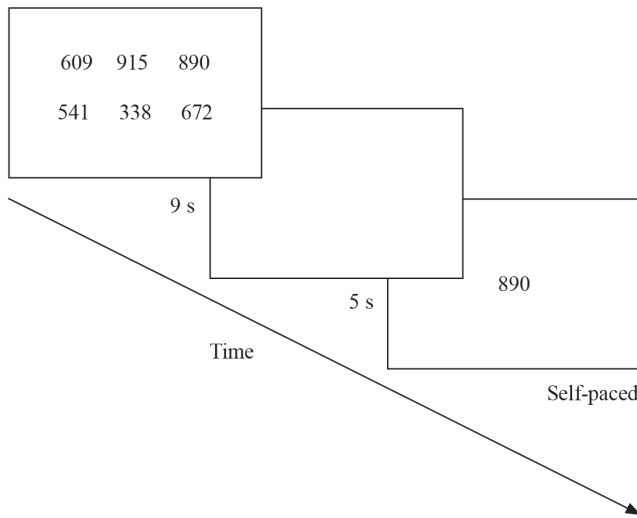


Figure 1. Example of Digit Memorizing Task
 Note. s = seconds.

Participants in the low-load condition read the whole dilemma scenario without being interrupted with a secondary task, and then made their moral judgment. To match the two conditions, low-load participants read the first paragraph of the scenario on the first screen, and the second paragraph on the second screen.

Finally, participants answered the question about their judgment strategy and provided demographic data. They were checked for suspicion to verify that they had not worked out the true purpose of the experiment, and debriefed.

Results and Discussion

A 2 (power) × 2 (cognitive load) analysis of variance (ANOVA) was carried out to check whether the power manipulation was successful. The main effect of power was significant, $F(1, 135) = 66.65, p < .001, \eta_p^2 = .331$. Neither the main effect of cognitive load, $F(1, 135) = 0.24, p = .628, \eta_p^2 = .002$, nor the interaction between power and cognitive load was significant, $F(1, 135) = 0.02, p = .90, \eta_p^2 < .001$. We calculated 95% confidence intervals (CIs) and the results show that participants in the high-power condition felt more powerful, more in control over the situation, and that they had more influence over others, $M = 7.30, SD = 1.25, 95\% CI [6.89, 7.71]$, relative to those in the low-power condition, $M = 4.91, SD = 2.09, 95\% CI [4.50, 5.32]$. This analysis shows that the manipulation of cognitive load did not affect participants' power experiences.

A 2 (power) × 2 (cognitive load) ANOVA yielded a significant main effect of power, $F(1, 135) = 4.06, p = .046, \eta_p^2 = .03$. Participants in the high-power condition, $M = 6.26, SD = 2.54, 95\% CI [5.63, 6.88]$, made moral judgments that were more deontological than those made by participants in the low-power condition, $M = 5.36, SD = 2.81, 95\% CI [4.72, 5.98]$. The main effect of cognitive load was not significant, $F(1, 135) = 1.41, p = .24, \eta_p^2 = .01$. However, there was a marginal interactive effect between power and cognitive load on moral judgment, $F(1, 135) = 3.32, p = .07, \eta_p^2 = .024$. Under the no-cognitive-load condition, the judgments of high-power participants, $M = 6.40, SD = 2.19, 95\% CI [5.52, 7.29]$, were more deontological than those of low-power participants, $M = 4.68, SD = 2.73, 95\% CI [3.78, 5.57], t(67) = 2.90, p < .01, d =$

0.70. However, under the condition of cognitive load, there was no difference according to the style of judgment of those in the high-power condition, $M = 6.11$, $SD = 2.87$, 95% CI [5.23, 7.00], and of those in the low-power condition, $M = 6.03$, $SD = 2.76$, 95% CI [5.14, 6.91], $t(68) = 0.13$, $p = .90$, $d = 0.03$. As expected, participants in the high-power condition adopted a deontological moral judgment regardless of whether they were making the judgment under the condition of high cognitive load, $t(68) = -0.47$, $p = .64$, $d = 0.11$. In contrast, whether they had cognitive load altered the participants' moral judgment style in the low-power condition. Cognitive load led to an increased preference for deontological judgment, $t(67) = 2.05$, $p < .05$, $d = 0.49$.

We found that having power triggered deontological judgment, as found by Lammers and Stapel (2009). Our findings also demonstrated that cognitive load did not affect the moral judgment preference of powerholders.

Study 2

Method

Participants and Design

We recruited 137 students at a university in the United Kingdom (84 women and 53 men; $M_{\text{age}} = 23.17$ years, $SD = 3.75$, range = 18–36). All materials were presented in English. The sample was 56.9% European, 20.4% Chinese, 8.8% Asian, 3.6% African, 3.6% Pakistani, 2.9% Indian, 2.9% mixed ethnicity, and 0.7% Arab. All participants received 0.5 course credit compensation for taking part in the research. The sample size ($N = 128$) was calculated for detecting a medium ($f = .25$) effect with an adequate power level of $p = .80$ (Cohen, 1988), and a desired alpha error probability of $p = .05$. More participants registered in the study than we anticipated, and all who registered were included in the analysis. Participants were randomly assigned to one of four conditions determined by a 2 (power: high vs. control) \times 2 (causal thinking: instructions vs. no instructions) between-subjects design. Data were collected via a Qualtrics (<https://www.qualtrics.com>) questionnaire.

Procedure

To increase the variability of moral context, in Study 2 we chose an adapted version of the footbridge dilemma, which is a typical example of dilemmas commonly used in moral judgments studies (Hauser et al., 2007). We adapted the classical footbridge dilemma to a version without bodily harm to match the everyday-life dilemma structure of our study. To examine ownership rights, Millar et al. (2014) adapted the footbridge dilemma and the trolley dilemma to make them about damage to inanimate objects. People agree that it is wrong to destroy objects—valued property in particular—because this violates others' ownership rights, and judgments about the acceptability of damaging owned property also demonstrate the conflict between deontology and utilitarianism (Millar et al., 2014). Therefore, we followed this method and adapted the harm target from human to inanimate objects (Cushman et al., 2012; Greene et al., 2001, 2004; Paxton et al., 2012).

Once participants agreed to take part, they were given the link to the Qualtrics survey. Similar to Study 1, power was manipulated with a role simulation task. Participants in the high-power condition were asked to simulate being a managing director in a marketing organization and to describe what a typical day in their life would be like. Participants in the control condition described their own typical day. After the power manipulation was applied, they completed the same manipulation check items as in Study 1.

Deliberation was induced through causal thinking, whereby individuals look for an explanation for a stimulus, variable, or phenomenon (Buss, 1978). Causal thinking elicits deliberative processing of information (see, e.g., Zheng et al., 2020). Participants were first presented with the adapted footbridge moral dilemma. In the original version, the protagonist must choose whether to push a man down from a footbridge onto a trolley in order to save five people on the train track. In our adapted version, the victim was an inanimate object—a sculpture—and five sculptures were substituted for the five people.

Tom is on a footbridge over train tracks. He sees a train approaching the bridge out of control. There are five sculptures (belonging to an unknown person) on the track. Tom sees that the driver of the train has slammed on the brakes, but the brakes failed. The train is now rushing toward the five sculptures. Tom knows that the only way to stop this out-of-control train is to drop a very heavy weight into its path. The only available, sufficiently heavy weight is another sculpture. However, this sculpture belongs to a passer-by. He has gone to the toilet and asked Tom to help him by looking after his sculpture. Tom can push the sculpture onto the track to prevent the train from destroying the five sculptures, but this will destroy the sculpture he is looking after; or he can refrain from doing this, and let the five sculptures be destroyed.

To manipulate deliberative processing, before reading the dilemma scenario, half of participants were informed that “You will be asked to describe why you chose this course of action. Please take your time to think about this situation and choose the best course of action.” The other half of the participants in the control condition made a judgment without receiving this instruction. At the end all participants were asked “To what extent is it appropriate for you to push the sculpture?” rated on a 9-point Likert scale ranging from 1 (*definitely not*; deontological option) to 9 (*definitely yes*; utilitarian option). Finally, they were checked for suspicion to verify that they had not worked out the true purpose of the experiment, and debriefed.

Results and Discussion

A 2 (power) \times 2 (causal thinking) ANOVA showed that the main effect of power on the manipulation check items was significant, $F(1, 133) = 86.18, p < .001, \eta_p^2 = .39$. Neither the main effect of causal thinking, $F(1, 133) = 0.05, p = .82, \eta_p^2 < .001$, nor the interaction between power and dilemma was significant, $F(1, 133) = 0.23, p = .63, \eta_p^2 = .002$. Participants in the high-power condition felt more powerful (i.e., more in control over the situation, and more influential), $M = 7.51, SD = 1.26, 95\% CI [7.21, 7.81]$, relative to those in the control condition, $M = 5.01, SD = 1.82, 95\% CI [4.57, 5.45]$. In this analysis, causal instruction type did not affect participants’ power experiences.

A 2 (power) \times 2 (causal thinking) ANOVA was conducted on the permissibility of pushing one sculpture onto the track. As expected, this yielded a significant interaction effect of power and the causal thinking instruction, $F(1, 133) = 4.66, p = .033, \eta_p^2 = .034$. The main effect of power, $F(1, 133) = 0.76, p = .38, \eta_p^2 = .006$ was not significant, and the main effect of systematic thinking instruction was marginal, $F(1, 133) = 3.09, p = .081, \eta_p^2 = .023$. People made moral judgments that were more utilitarian on average in the condition of receiving the causal-thinking instruction, $M = 4.94, SD = 1.98, 95\% CI [4.43, 5.46]$, than in the control condition for causal thinking, $M = 4.29, SD = 2.34, 95\% CI [3.79, 4.81]$.

Under the control condition of not having received the causal-thinking instruction, participants in the high-power condition, $M = 3.74, SD = 1.85, 95\% CI [3.03, 4.46]$, were more inclined to not push one sculpture to save five (the deontological moral choice) compared with their (power) control counterparts, $M = 4.85, SD = 2.66, 95\% CI [4.13, 5.58], t(67) = -2.01, p = .048, d = 0.48$. However, the difference between participants in the high-power, $M = 5.18, SD = 1.93, 95\% CI [4.45, 5.90]$, and control conditions, $M = 4.71, SD = 2.04, 95\% CI [3.98, 5.43]$, was eliminated when participants engaged in causal thinking, $t(66) = 0.98, p = .33, d = 0.24$. High-power participants made moral judgments that were more utilitarian when they had been instructed to engage in causal thinking, $M = 5.18, SD = 1.93, 95\% CI [4.45, 5.90]$, than in the absence of this instruction, $M = 3.74, SD = 1.85, 95\% CI [3.03, 4.46], t(67) = 3.15, p = .002, d = 0.76$, whereas the type of moral judgment made by participants in the control group was not affected by whether they had received the causal-thinking instruction, $M_{\text{deliberation}} = 4.71, SD_{\text{deliberation}} = 2.04, 95\% CI [3.98, 5.43], M_{\text{control}} = 4.85, SD_{\text{control}} = 2.66, 95\% CI [4.13, 5.58], t(66) = -0.26, p = .80, d = 0.06$. As expected, thinking deliberately shifted the moral reasoning of powerful participants toward utilitarianism. Consequently, no difference was found between the high-power condition and the control condition when the instruction for causal thinking was presented.

General Discussion

In Study 1 we used a number-memorizing task to show that cognitive load decreased the utilitarian moral judgments of the powerless, but did not change powerful individuals' type of moral judgment, although this interaction between power and cognitive load on moral judgment was at a level that was marginal. In Study 2 we found that powerful individuals' preference for deontological moral thinking was lower in the condition in which deliberative thinking was elicited. Our findings contribute to explaining why the effects of being powerful on moral reasoning occur in some situations (Gawronski & Brannon, 2020; Lammers & Stapel, 2009) and not in others (Fleischmann et al., 2019). In their study of power and moral judgments, Lammers and Stapel (2009) showed that a rule-based thinking orientation mediates the link between power and moral judgment. In our studies we showed that differences in cognitive processing style can also contribute to how powerholders think about a dilemma.

Our findings are different from those of a more recent study of Lammers' laboratory (Fleischmann et al., 2019) in which the results showed that power did not affect moral choice in the context of sacrificial dilemmas, but did increase the percentage of utilitarian thinking, and this process is mediated by deliberation. Nevertheless, we do not think that our findings contradict these, for the following reasons: First, the dilemmas that Fleischmann et al. (2019) used were of a different type from the dilemmas that we used. We chose to follow Lammers and Stapel (2009) in presenting dilemmas that did not involve harm to humans, whereas Fleischmann et al. used a classical sacrificial dilemma involving bodily harm. The dilemma with bodily harm is only one specific context when considering the conflict of deontology and utilitarianism, and cannot represent all moral contexts (Kahane, 2015; Kahane et al., 2018). Harm is an important factor to elicit intuitive thinking style, leading to a higher incidence of deontological judgment (Greene et al., 2001; Hauser et al., 2007). The presence of harm can lead to insensitivity to the cognitive thinking processes aroused by power, and to experiential manipulation for thinking style. This was also shown by Fleischmann et al. (2019), as power had no effect on their participants' final moral judgments. However, our results and those of Lammers and Stapel (2009) show that power influenced the final judgment choice in moral dilemmas with conflicts between rules (the core content of deontology) and outcomes (the core content of utilitarianism). This indicates that power can influence moral judgments differently according to the type of moral dilemma.

Because we found that powerholders' final choice of moral judgment differed according to the context in which the choice was made, we assumed that the underlying mechanisms were also different. Fleischmann et al. (2019) calculated percentages of deontological and utilitarian thinking affected by power and mainly focused on how the percentages of processes change. We focused on one important mechanism, intuitive thinking, and found it played a predominant role in the final judgments of powerholders in moral dilemmas not involving bodily harm. Therefore, our research and that of Fleischmann et al. reveal different aspects of how power affects judgments on moral dilemmas in different moral contexts.

According to the findings of a series of studies by Kahane and colleagues (Kahane, 2015; Kahane et al., 2018), judgments made in regard to sacrificial dilemmas involving bodily harm cannot reflect all moral thinking concerning conflicts of deontology and utilitarianism. The moral judgments we analyzed in Study 2 were around the mid-point of the scale, which is different from the finding of Hauser et al. (2007) that only 12% of participants considered it morally permissible to sacrifice the man's life. The reason is that in Study 2 we discussed the issue of protecting or violating others' ownership rights (Millar et al., 2014), and Hauser et al. focused on whether to sacrifice and harm people. These are quite different moral contexts, so that the moral choices of the participants may also be different. We showed that the thinking style of powerholders in dilemmas not involving bodily harm was intuitive, which is different from their deliberative thinking style in dilemmas involving bodily harm. This finding supports the flexible cognitive strategies of powerholders

(Guinote, 2017). Being in a position of power guides people to use different cognitive strategies to fit different contexts.

Examining the role of thinking styles as an underlying process provides insight into processes associated with social power. Consistent with the power approach/inhibition theory (Keltner et al., 2003), powerful individuals prefer to use automatic (intuitive) social cognition, whereas powerless individuals prefer to use controlled (deliberative) social cognition. This difference in cognitive processing style also occurs in their moral judgments. We found that the link between possessing power and thinking intuitively partially explains the specific stable preference of the powerful for deontology, informing theory about how power affects the mind.

The association between power and moral thinking style examined in this article is consistent with dual-process moral judgment theory (Greene et al., 2001). Moral judgments are not stable: they are affected by various contextual cues and people rely on intuition or elaborative reasoning to think about moral events depending on context. Deontological moral judgments are usually driven by moral intuition, whereas utilitarian decisions require deliberation (Greene et al., 2008; Kroneisen & Steghaus, 2021; Patil et al., 2020).

The present findings suggest that this intuitive tendency is also shown in the moral decisions of powerholders. Powerholders rely on their first impression, subject experience, heuristics, and intuition to make ethical decisions that involve the interests of the public and the greatest number (Guinote, 2017; Keltner et al., 2003). However, the decisions may be harmful when their heuristic and subjective experiences come from inappropriate information sources (Weick & Guinote, 2008). Although it is not possible to state that deliberative thinking must be better than intuitive thinking, deliberation can give decision makers a chance to consider the benefits and outcomes for all parties (Kroneisen & Steghaus, 2021). Our findings suggest that related regulations can be instigated in organizations and institutions to ensure that the people who are in positions of authority use a deliberative process before making important decisions.

This research has limitations and provides future research possibilities. First, the interaction between power and cognitive load on moral judgments was found to be only marginal in Study 1. Further studies and different methodologies are needed to examine this effect in future. In both studies that we conducted, we adopted a moderation-of-process experimental design (Spencer et al., 2005). Measuring personal sense of power in natural conditions can provide an assessment (Anderson et al., 2012), but requires a large sample size. Constrained by limited time and budget, in this research we did not use this design. Further studies could be conducted to measure sense of power directly and assess participants' responses when using an intuitive or a deliberative thinking style. Other methodologies could be used in the future to examine the role of cognitive processing style, such as a causal-chain design (Spencer et al., 2005) and a neuroimaging study. Functional magnetic resonance imaging provides a possible means for assessing the activation of automatic/controlled cognition-related brain areas (e.g., Greene et al., 2001).

The results of Study 2 showed that an instruction for deliberative thinking can lead to an increase in utilitarian moral judgments of powerholders. Powerholders do not always rely on intuitive thinking, and they also modify their cognition according to the current context and the tasks. Therefore, our findings indicate that cognitive processing style is not the only psychological process underlying how power affects moral judgment. Other factors, such as goal focus, may contribute together with cognitive processing to explain the effect of power on moral judgment. Thus, further study is needed to investigate the role of goal focus in the relationship between power and moral judgment.

In summary, cognitive processing style provides an explanation for the influence of power on moral judgments in dilemmas with conflicts between deontology and utilitarianism. Powerholders tend to rely on

intuitive thinking to make deontological moral judgments, and powerless individuals tend to make utilitarian moral judgments driven by deliberation. The powerful employ an intuitive thinking style, which is different from the style employed by those people who do not possess power and those in a low-power condition.

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