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The Justice Motive and Unconscious Decision Making

Adalet Gds ve Bilinsiz Karar Verme

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Abstract

In two experiments we investigated the relation between implicit justice motive and quality of decisions in complex justice-specific situations. According to Unconscious-Thought Theory (Dijksterhuis & Nordgren, 2006), people make better complex decisions when thinking unconsciously than when thinking consciously or deciding immediately. We expected that decision quality would depend on participants' implicit justice motive (Dalbert, 2001) which operates on an unconscious level and would thus explain especially unconscious decisions. Data were obtained from a total of N = 180 individuals. Findings of both experiments suggest that participants with a strong implicit justice motive were more likely to make just decisions in the unconscious-thought condition than in both other conditions. Findings are discussed in light of the justice motive theory (Dalbert, 2001).

Keywords: justice motive, belief in a just world, unconscious thought, decision making

zet

Bu alıřmada iki deneyden hareketle, rtk adalet gds ve adaletle zg karmařık durumlardaki kararların nitelięi arasındaki iliřkiyi inceledik. Bilinsiz-Dřnce Teorisi'ne gre (Dijksterhuis ve Nordgren, 2006), insanlar bilinsiz bir řekilde dřndklerinde bilinli bir řekilde dřndklerinden ya da ani karar verdikleri durumlardan daha iyi karmařık kararlar vermektedirler. Kararın nitelięinin katılımcıların, bilinsiz bir dzeyde iřleyen ve dolayısıyla zellikle bilinsiz kararları aıklayacak olan, rtk adalet gdlerine (Dalbert, 2001) baęlı olacaęını bekledik. alıřmanın verisi N = 180 katılımcıdan elde edilmiřtir. Her iki deneyin bulguları da; gl bir rtk adalet gdsne sahip katılımcıların adil kararlar vermelerinin, dięer iki kořuldansa bilinsiz-dřnce kořulunda daha olası olduęuna iřaret etmektedir. Bulgular, adalet gds teorisi (Dalbert, 2001) ıřıęında tartıřılmaktadır.

Anahtar Szckler: adalet gds, adil dnya inancı, bilinsiz dřnce, karar verme

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INTRODUCTION

Dual-process theories of cognitive functioning (Epstein, 1990; Strack & Deutsch, 2004) distinguish between an impulsive, intuitive system involving associative representations and a reflective, controlled system involving flexibly generated, propositional representations. In line with this debate and with theorizing on human motives (e.g., McClelland, Koestner, & Weinberger, 1989; Spangler, 1992), justice motive theory assumes two distinct types of justice motives (Dalbert, 2001). The *implicit justice motive* represents a striving for justice as an end in itself, which operates on an unconscious level outside subjective awareness via automatic and intuitive processes. In contrast, the explicit or *self-attributed justice motive* represents an individual's conscious self-description of his or her justice-related values. It operates on a conscious level via controlled processes. In this article, we focus on the implicit justice motive and test the hypothesis that the implicit justice motive fosters complex unconscious justice-specific decisions. Therefore, we conducted two experiments based on Unconscious-Thought Theory (Dijksterhuis & Nordgren, 2006).

The Justice Motive

The basic idea of the just-world hypothesis is that people confronted with injustices suffer and feel the need to restore justice (e.g., Lerner, 1980). The belief in a just world (BJW) indicates the strength of this unconscious need. It is thus a basic schema, rather than a dimension of the reflective self-concept (Dalbert, 2001). Indeed, just world research has shown that the BJW impacts intuitive justice-driven reactions, such as cognitive reinterpretation of injustice (e.g., blaming the innocent victims of an unjust fate, Lerner & Goldberg, 1999; for a review, see Hafer & Bègue, 2005), and is connected with a decrease in the self-esteem of those committing injustice (Dalbert, 1999). Thus, theoretical and empirical research both suggest that the BJW is an essential but unconscious source of responses to injustice, and that it corresponds to the role of other implicit motives in motive theory. We therefore expect that the BJW indicates the implicit justice motive. This justice motive varies between individuals and explains the striving for justice as an end in itself (Dalbert, 2001). It is activated by situational justice-specific cues, such as injustice, disadvantage, or abuse of privilege. People with a strong implicit justice motive can be expected to strive for justice more strongly and to process justice-specific information faster and more effectively than other people. Furthermore, the implicit justice motive can be expected to explain intuitive

reactions better than controlled justice-driven reactions because it operates on an unconscious level.

Dalbert and Umlauft (2009) provided first evidence for this assumption. Participants in a dictator game had to allocate a certain amount of money between themselves (the dictator) and an unknown person. Dividing the windfall equally can be interpreted as a fair decision; pocketing all of the money represents an egoistic choice (Konow, 2005). Dalbert and Umlauft (2009) showed that only the implicit justice motive explained the choice of an equal allocation. In contrast, the avoidance of an egoistic allocation, which the authors interpret as the result of a strategic and controlled cognitive process, was not explained by the implicit justice motive but by social desirability.

Unconscious-Thought Theory

In everyday life, people are often confronted with complex decisions—for example, deciding on a flat, a car, a job opportunity, or a university. Some people think that the best way to make a good decision is to carefully deliberate the relevant information; they believe that decision-making benefits from strategies such as making lists of pros and cons. Sometimes, however, people delay a decision and suddenly, after a certain time, find that their choice is clear. Dijksterhuis and colleagues (e.g., Dijksterhuis, 2004; Dijksterhuis & Nordgren, 2006) investigated conditions under which either careful thinking or avoidance of deliberation leads to a better decision. In their Unconscious-Thought Theory, Dijksterhuis and Nordgren (2006) distinguish between conscious and unconscious thought in decision-making situations and propose several principles differentiating between the two types of thought.

According to the *Unconscious-Thought Principle*, two information processing modes can be differentiated: conscious thought refers to “object-relevant or task-relevant cognitive or affective thought processes that occur while the object or task is the focus of one’s conscious attention” (Dijksterhuis & Nordgren, 2006, p. 96; “deliberation with attention”); in contrast, unconscious thought refers to thought processes “that occur while conscious attention is directed elsewhere” (Dijksterhuis & Nordgren, 2006, p. 96; “deliberation without attention”). These processes are not mutually exclusive; that is, human information processing does not operate only consciously or unconsciously.

According to the *Capacity Principle*, moreover, conscious and unconscious thought differ in their capacity with conscious thought, like working memory, being limited to just a few items (7 ± 2 items; Miller, 1965) and unconscious thought having a much higher capacity.

Given this constraint, conscious thought leads to poorer decisions than unconscious thought, especially in complex situations. Dijksterhuis and Nordgren (2006) define complexity in terms of the amount of information involved.

As a consequence of these differences in capacity, conscious thought uses a schematic or top-down style of processing, leading to the information reduction and simplification that is often observed in the use of stereotypes and to associated distortions in people's perceptions and evaluations. In contrast, unconscious thought operates aschematically from the bottom up, gradually integrating information into relatively objective and condensed judgments, and thus leading to better organization of information in memory and avoiding bias (*Bottom-Up versus Top-Down Principle*).

According to the *Weighting Principle*, unconscious thought is better than conscious thought at weighting of the relative importance of the relevant information; conscious thought places too much weight on information that is available, plausible, and easy to verbalize (see also Wilson & Schooler, 1991). Additionally, conscious thought weights information inconsistently over time; unconscious thought does not.

The *Rule Principle* states that conscious thought is precise and follows strict rules like those used in computing, whereas unconscious thought makes rougher estimations of quantities. When people engage in unconscious thought, "they [develop] a rough, gut feeling [...], which [indicates] that they [have] unconsciously integrated the numerical information" (Dijksterhuis & Nordgren, 2006, p. 101).

On this basis, Dijksterhuis and Nordgren (2006) formulated the deliberation-without-attention hypothesis: In complex decision situations, unconscious thought leads to higher quality decisions than does conscious thought because unconscious thought has a higher capacity, integrates information into relatively objective and condensed evaluations, and better organizes and weights the relevant information.

Unconscious-Thought Paradigm

Dijksterhuis (2004) developed the *Unconscious-Thought paradigm* to investigate the expected superiority of unconscious thought. This paradigm has been used in several studies comparing the quality of decisions made after conscious and unconscious thought (e.g., Bos, Dijksterhuis, & van Baaren, 2008; Dijksterhuis, Bos, Nordgren, & van Baaren, 2006; Dijksterhuis & Nordgren, 2006; Dijksterhuis & van Olden, 2006; Payne, Samper, Bettman, & Luce, 2008; Smith, Dijksterhuis, & Wigboldus, 2008).

In general, this paradigm involves a complex decision task in which participants have to decide on one of four objects, each characterised by a set of attributes. Decision situations have included buying a new car (e.g., Bos et al., 2008) and choosing an apartment, a roommate (e.g., Dijksterhuis, 2004), or a painting (Dijksterhuis & van Olden, 2006). In most studies, each object was presented as having twelve attributes. Usually, one object (the most attractive one) was described by eight positive and four negative items; another object (the most unattractive one), by eight negative and four positive items; the remaining two fell in between, with six positive and six negative attributes each. The participants' task was to read the attributes presented on a computer screen and to form an impression of each object. Participants were assigned to one of two or three experimental conditions. In the immediate condition, often used as a control condition, participants decided on one of the four objects directly after reading. Participants in the conscious-thought condition were asked to carefully think about the objects for a limited time (generally 3 or 4 minutes), whereas participants in the unconscious-thought condition were distracted from conscious thought about the objects for the same period of time by anagram or n-back tasks (e.g., Dijksterhuis, 2004). After this time, participants in the latter two conditions decided on one of the four objects.

A growing number of studies using variations of the Unconscious-Thought paradigm have showed that unconscious thought led to better decisions especially in complex decision situations (e.g., de Vries, Witteman, Holland, & Dijksterhuis, 2010; Dijksterhuis et al., 2006; Dijksterhuis, Bos, van der Leij, & van Baaren, 2009; Dijksterhuis & van Olden, 2006; Smith et al., 2008; Strick, Dijksterhuis, & van Baaren, 2010). That means, people in the unconscious-thought condition have consistently shown higher quality decisions (e.g., choosing the most attractive object more often) than those in the other two conditions.

Our Study

As the principles of the Unconscious-Thought Theory are not specific to certain content, the Unconscious-Thought paradigm can also be applied to justice-related topics. For example, Ham and van den Bos (2010) confronted participants with a footbridge dilemma and found that unconscious thinkers were most likely to make utilitarian moral decisions. Thus, the Unconscious-Thought paradigm (Dijksterhuis & Nordgren, 2006) seems a suitable approach for testing the justice motive theory (Dalbert, 2001) as it differentiates between an unconscious and a conscious level of information processing.. Accordingly, the implicit justice

motive operates via unconscious processes and predicts intuitive reactions more likely than controlled reactions.

We therefore expected that (1) the implicit justice motive will foster complex justice-specific decisions in the unconscious-thought condition: the stronger participants' BJW, the better the quality of their decision making in the unconscious-thought condition, and that (2) the implicit justice motive will not foster such decisions in the conscious-thought condition.

EXPERIMENT 1

METHOD

Participants and procedure. Participants were 90 individuals (24 male) aged from 18 to 31 ($M = 23.0$, $SD = 3.0$), recruited in Halle (Saale), Germany. The majority (91%) of them were undergraduate students at the Martin Luther University of Halle-Wittenberg.

In a session lasting about 45 minutes, the first part consisted of Experiment 1. Participants worked individually at a computer screen in separate cubicles of a computer laboratory. We first tapped demographic information and assessed the justice motive. Then we used a complex justice-specific decision problem with two experimental conditions of the Unconscious-Thought paradigm (unconscious, conscious) and a control condition (immediate). Afterwards, the decision task was administered. Participants received €5 compensation for their participation.

Independent measure. To assess the implicit justice motive, we used Dalbert, Montada, and Schmitt's (1987) General Belief in a Just World Scale (6 items, $\alpha = .74$; e.g., "I am convinced that in the long run people will be compensated for injustices"). Responses on the scales were made on a six-point scale ranging from 1 (*totally disagree*) to 6 (*totally agree*).

Unconscious-Thought paradigm. We adapted the Unconscious-Thought paradigm (e.g., Dijksterhuis, 2004) to a complex justice-specific decision. The decision task was based on a hypothetical situation in which four school students had broken into their school and stolen examination papers. The students had been caught by a teacher, and the school committee then had to decide on the punishment to be imposed on each of the students. The situation was presented in four vignettes representing summaries of interviews with each of the students. Participants were instructed to read the vignettes and to form an impression of the students. They were told that they would later be asked to suggest a punishment for each student.

The students were characterized by different degrees of responsibility which were realized by using criteria derived from Heider's theory of responsibility attribution (1958). That is, we varied the students' behaviour in terms of their presence during the break-in, their capacity to foresee possible consequences, their intention to break in, their intention to steal examination papers, their control of what went on inside the school building, and specific reasons for mitigation and/or aggravation of the punishment (e.g., playing down, compromise, remorse). Adolescent A (the "*watchdog*") was described by five low-responsibility behaviour and one neutral behaviour. He should be perceived as least responsible because, for example, he waited outside the school building. Adolescents B and C (the "*followers*") were presented as being moderately responsible, and described by three high-responsibility and three low-responsibility behaviour (e.g., they did not intend to steal examination papers, they thought it was just fun). Finally, adolescent D (the "*agitator*") was described by five high-responsibility and one low-responsibility behaviour. He should be seen as bearing primary responsibility for the school break-in and the theft of the examination papers. Given these clear differences in responsibility, the punishments allocated to the agitator and the watchdog should differ notably—provided that the relevant information was processed undistorted and in objective manner.

We included additional information to increase the complexity of the decision task. To this end, the justice-specific information (i.e., the six behavioural characteristics) was embedded in interview texts containing several irrelevant pieces of information about each student (e.g., school achievement, appearance, mode of speech during the interview). For standardization purposes, we used the same word count (234 words) in each vignette. The four vignettes were presented successively on a single screen for a maximum of 180 s. Participants could decide to move on to the next vignette by pressing the Enter key, but they could not return to the previous one. The vignettes were presented to all participants in fixed order: follower B, agitator, follower C, and watchdog.

After being presented with the instruction page and the four vignettes, participants were randomly assigned to the three experimental conditions. In line with the Dijksterhuis experiments (e.g., Dijksterhuis, 2004), (1) participants in the *immediate condition* had to suggest punishments for each of the four students immediately after reading, (2) those in the *conscious condition* were asked to think carefully about the vignettes for three minutes, and (3) those in the *unconscious condition* were asked to solve anagram tasks for three minutes

before deciding.

Dependent measures. Participants were asked to suggest a punishment (number of extra hours' work at school) for each student separately on an 11-point rating scale from 0 hours (*no punishment*) to 50 hours (*maximum punishment*) in the order in which the vignettes were presented. We used the difference between the watchdog's punishment and the agitator's punishment ("punishment difference") as the dependent variable by subtracting the former from the latter.

Control questions. Afterwards, participants were asked to indicate the degree of sympathy they felt for each student on a six-point scale ranging from 1 (*not sympathetic at all*) to 6 (*very sympathetic*) in the same order of presentation.

RESULTS

Preliminary analyses. As expected, the watchdog was given a significantly lower punishment ($M = 25.33$, $SD = 10.43$) than the agitator ($M = 33.06$, $SD = 11.26$; $t = -6.68$, $p < .001$, $df = 89$, $d = 0.70$), with the suggested punishment for the two followers falling in between (M s = 28.17 and 28.78, SD s = 9.96 and 10.09). Here and in all other statistical tests, the significance level was one-tailed.

Table 1

Punishment Differences by Experimental Condition (Experiment 1)

Condition	M	(SD)	Implicit justice motive
			r
Immediate	6.50	(11.68)	.22
Conscious	6.33	(11.21)	.09
Unconscious	10.33	(9.82)	.37*

* $p < .05$.

To examine the difference in the punishments imposed on watchdog and agitator, we ran a 3 (experimental condition) by 2 (sex of participant) ANOVA. We controlled for sex because both students were male which could have evoked differences in information processing and in decision making between female and male participants. None of the effects were significant: condition ($F = 1.19$, $p = .31$); sex ($F = 1.67$, $p = .20$); sex by condition ($F = 0.64$,

$p = .53$). Therefore, sex was not considered in the further analyses. Post hoc pairwise t tests (see Table 1 for means) showed that the punishment difference was slightly greater in the unconscious than in the conscious condition ($t = 1.47, p = .07, df = 58, d = 0.38$).

Hypothesis testing. We calculated correlations between the implicit justice motive and the punishment difference for each condition separately (see Table 1). As expected, there was a significant positive relation between the implicit justice motive and the punishment difference in the unconscious condition ($r = .37, p < .05$): The stronger the participants' implicit justice motive, the greater the punishment difference after unconscious thought. The implicit justice motive did not correlate with the dependent variable in the other conditions. Especially the correlation in the conscious condition was somewhat smaller than the correlation in the unconscious condition ($z = 1.10, p = .07$).

Table 2

Bivariate Correlations between Sympathy Judgments and Punishment Differences by Experimental Condition (Experiment 1)

	Sympathy watchdog	Sympathy agitator
Condition	r	r
Immediate	.54**	-.47**
Conscious	.00	-.54***
Unconscious	.26	-.24

** $p < .01$. *** $p < .001$.

Control analyses. Various patterns of correlations emerged between sympathy for watchdog/agitator and the punishment difference (see Table 2). In the immediate condition, both variables correlated significantly with the punishment difference. In the conscious condition, sympathy for the agitator correlated significantly with the punishment difference but sympathy for the watchdog did not. The more sympathetic the agitator was, the smaller the punishment difference between watchdog and agitator was. In the unconscious condition however, punishment differences were independent of participants' sympathy for both students.

We also compared the magnitude of the punishments awarded across the experimental conditions to rule out *leniency or severity biases*. To this end, we calculated a

new variable for each participant by individually summing up the punishments awarded to all four students. An ANOVA for this variable and experimental condition showed no significant effect of the condition ($F = 0.50, p = .95$). Consequently, *leniency or severity biases in the allocation of punishments were unlikely*.

DISCUSSION

Our preliminary analyses were in line with other findings reported within the Unconscious-Thought paradigm (e.g., Dijksterhuis, 2004): Participants in the unconscious-thought condition showed the best decision quality. Specifically, the punishment difference was greater in the unconscious than in the conscious-thought condition, indicating that unconscious thought was superior to conscious thought—presumably due to its higher capacity, more effective processing of information, and better ability to weight the relative importance of information.

Justice motive theory states that the implicit justice motive operates on an intuitive, unconscious level (Dalbert, 2001); it can thus be expected to foster intuitive reactions. In line with this reasoning, a stronger implicit justice motive explained better justice-specific decisions in the unconscious-thought condition and not in the conscious conditions. This supports the hypothesis that the implicit justice motive operates on an unconscious level increasing unconscious but not deliberate conscious processes. In line with this reasoning, the unconsciously generated punishment difference was independent of the sympathy for either the agitator or the watchdog.

EXPERIMENT 2

Experiment 2 was performed to replicate the findings of Experiment 1, but with one important extension. The quality of the decision was assessed in two ways to increase the validity of the measure: In addition to the punishments allocated, we directly assessed the perceived responsibility of the agitator and the watchdog.

METHOD

Participants and procedure. Participants were 90 individuals (35 male) aged from 18 to 53 ($M = 24.7, SD = 5.9$), recruited in Halle (Saale), Germany. The majority (78%) of them were undergraduate students at the Martin Luther University of Halle-Wittenberg.

In a session lasting about 45 minutes, participants worked individually at a computer

screen in separate cubicles of a computer laboratory. Again, we tapped demographic information, assessed the justice motive, and presented the justice-specific Unconscious-Thought paradigm with three conditions and the decision task. Participants received €5 compensation for their participation.

Independent measure. We again used the General Belief in a Just World Scale (Dalbert et al., 1987; 6 items; $\alpha = .72$) to measure the implicit justice motive.

Unconscious-Thought paradigm. We used the same complex justice-specific decision as in Experiment 1. Again, the instruction and vignettes described four students with different levels of responsibility for a school break-in and theft of examination papers. We also implemented three experimental conditions (immediate, conscious, and unconscious).

Dependent measures. In Experiment 2, we first asked participants to indicate how responsible they considered each student to be on a six-point scale ranging from 1 (*not responsible at all*) to 6 (*completely responsible*) in the same order of presentation as the vignettes. Afterwards, we asked them to decide on each student's punishment on the same 11-point rating scale as in Experiment 1. Again, the dependent variables were calculated by subtracting the rating for the watchdog (responsibility, punishment) from the corresponding rating for the agitator.

Control questions. Afterwards, participants were again asked to indicate the degree of sympathy they felt for each student in the same order of presentation.

RESULTS

Preliminary analyses. As expected, the watchdog was given a significantly lower punishment ($M = 24.22$, $SD = 12.50$) than the agitator ($M = 33.50$, $SD = 12.93$; $t = -7.45$, $p < .001$, $df = 89$, $d = 0.73$), with the suggested punishment for the two followers falling in between (M s = 27.17 and 28.83, SD s = 11.54 and 11.69). The same pattern was observed for responsibility, with the watchdog being perceived as significantly less responsible ($M = 3.80$, $SD = 1.29$) than the agitator ($M = 5.28$, $SD = 0.96$; $t = -8.53$, $p < .001$, $df = 89$, $d = 0.90$), and the responsibility ratings for the followers falling in between (M s = 4.16 and 4.49, SD s = 1.26 and 1.07).

To examine the responsibility difference, we ran a 3 (experimental condition) by 2 (sex of participant) ANOVA. None of the effects were significant: condition ($F = 2.15$, $p = .12$); sex ($F = 1.60$, $p = .21$); sex by condition ($F = 1.28$, $p = .28$). Therefore, sex was not considered

in the further analyses. Post hoc pairwise t tests (for means, see Table 3) showed that the responsibility difference did not differ between the unconscious and conscious condition ($t = 0.78$; $p = .22$, $df = 58$, $d = 0.20$).

Table 3

Responsibility and Punishment Differences by Experimental Condition (Experiment 2): Means (M) and Standard Deviations (SD)

Condition	Responsibility difference	Punishment difference	M	(SD)
	M	(SD)		
Immediate	1.77	(1.63)	10.17	(12.14)
Conscious	1.17	(1.84)	6.50	(12.61)
Unconscious	1.50	(1.43)	11.17	(10.48)

Similarly, the second 3 (experimental condition) by 2 (sex of participant) ANOVA for punishment difference showed no significant effects: condition ($F = 2.28$, $p = .11$); sex ($F = 0.10$, $p = .92$); sex by condition ($F = 1.86$, $p = .16$). Therefore, sex was not considered in the further analyses. Post hoc pairwise t tests (for means, see Table 3) showed that the punishment difference was somewhat greater in the unconscious than in the conscious condition ($t = 1.56$; $p = .06$, $df = 58$, $d = 0.40$).

Table 4

Bivariate Correlations between the Implicit Justice Motive and the Responsibility and Punishment Differences

Condition	Implicit justice motive	
	Responsibility difference	Punishment difference
Condition	r	r
Immediate	.29	.24
Conscious	-.01	.20
Unconscious	.45*	.46**

* $p < .05$. ** $p < .01$.

Hypothesis testing. To test our hypothesis, we calculated correlations between the implicit justice motive and the two dependent variables for each condition separately (see Table 4). As expected, there was a significant positive relation between the implicit justice motive and both dependent variables in the unconscious condition: The stronger the participants' implicit justice motive, the greater the responsibility and punishment differences in the unconscious-thought condition. Furthermore, the correlation between implicit justice motive and responsibility difference in the unconscious condition was significantly stronger than the corresponding correlation in the conscious condition ($z = 1.82$, $p < .05$). The correlation between implicit justice motive and punishment difference in the unconscious condition was somewhat stronger than the corresponding correlation in the conscious condition ($z = 1.08$, $p = .07$).

Table 5

Bivariate Correlations between Sympathy Judgments and Responsibility and Punishment Differences

	Responsibility difference		Punishment difference	
	Sympathy watchdog	Sympathy agitator	Sympathy watchdog	Sympathy agitator
Condition	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
Immediate	.34*	-.19	.43*	-.53**
Conscious	.19	-.49**	.27	-.56***
Unconscious	.19	-.06	.11	-.13

* $p < .05$. ** $p < .01$. *** $p < .001$.

Control analyses. To control for sympathy effects, we correlated the sympathy ratings for watchdog and agitator with the responsibility and punishment differences (see Table 5). Sympathy for agitator and watchdog correlated with punishment difference in the immediate condition, and sympathy for the agitator significantly correlated with both differences in the conscious condition. Most importantly, however, no relations were observed in the unconscious condition.

To control for biased responding, we compared the magnitude of the punishments awarded and of the responsibility ratings across the experimental conditions to rule out

leniency or severity biases. To this end, we calculated two new variables for each participant by individually summing up the responsibility and punishment ratings given to all four students. An ANOVA for responsibility ratings and experimental condition showed no significant effect of condition ($F = 1.19, p = .32$). Likewise, a second ANOVA for punishment ratings and experimental condition showed no significant effect of condition ($F = 1.50, p = .22$). Consequently, *leniency or severity biases in responsibility judgments and the allocation of punishment were unlikely*.

GENERAL DISCUSSION

In two experiments, we tested the justice motive theory (Dalbert, 2001) within the Unconscious-Thought paradigm (Dijksterhuis, 2004). To this end, we created a complex justice-specific decision situation, and participants made decisions in one of three conditions: immediately, after conscious thought, or after unconscious thought. Of particular interest was the comparison of the conscious with the unconscious condition. Individuals with a strong implicit justice motive strive for justice as end in itself. We expected that this striving will operate on an unconscious level as operationalized with the unconscious condition but not on a conscious level with deliberate thinking on what the most just decision would be.

Overall, our findings validated the justice motive theory (Dalbert, 2001). As expected, the implicit justice motive was positively correlated with decision quality in the unconscious-thought condition but not in the conscious-thought condition in both experiments. In other words, the stronger their implicit justice motive, the better participants were able to make justice-specific decisions when information was processed unconsciously. In this vein, Ham, van den Bos, and van Doorn (2009) also illustrated that unconscious thinkers made the most accurate justice judgments, especially when they had a strong implicit justice motive. Together with recent findings (e.g., Umlauft & Dalbert, 2009), our results confirm that the implicit justice motive operates on an intuitive, unconscious level and can thus be expected to foster unconscious information processing. In line with this reasoning, the implicit justice motive explained the justice-specific decision only in the unconscious-thought condition in our experiments, further underlining the specificity of the underlying processes and thus the validity of the justice motive theory.

Our research considered one possible concurrent factor explaining decision quality. In both experiments, we asked participants to indicate the sympathy they felt for each

adolescent. In both experiments, sympathy for the watchdog correlated positively with the decision quality in the immediate condition, and sympathy for the watchdog correlated negatively with the decision quality in the immediate and conscious condition. The sympathy judgments were, however, independent of the decision quality in the unconscious condition. These sympathy judgments may reflect the use of stereotypes, which are most likely to be applied when people deliberate consciously on highly complex information, as the constrained processing capacity of conscious thought leads to the formation of schemas (Dijksterhuis & Nordgren, 2006; Dijksterhuis & van Knippenberg, 1995). In the conscious-thought condition, sympathy for the agitator better explained the punishment difference than the implicit justice motive. Thus, in the conscious condition, participants seemed to consider irrelevant information much more than justice-specific information in their decision. However, in the unconscious-thought condition, decision quality was independent of sympathy judgments, presumably because the use of stereotypes was diminished. Rather, unconscious thought operates aschematically and integrates information effectively to form a relatively objective judgment (Dijksterhuis & Nordgren, 2006).

In our experiments, the decision quality was operationalized with differences between the watchdog's and the agitator's responsibility and punishment: the greater these differences, the higher the decision quality. In the context of justice psychology, one might question whether a higher decision quality also reflects a more just decision. From our perspective, this question meets *distributive justice* (for a review, e.g., Peter, Donat, Umlauf, & Dalbert, 2013). Cognitions about this kind of justice are usually triggered in situations in which goods are allocated to at least two different people or groups. Decisions on punishments and responsibilities can be interpreted as such allocations. In our study, a high decision quality was represented by a strong differentiation between agitator and watchdog on the basis of their behaviour. This seems to be in line with the *equity principle* of distributive justice (e.g., Adams, 1965), according to which an allocation is seen as just when the proportions of two people's input (e.g., responsibility for the stealing of exam solutions) and output (e.g., the punishment) are approximately equal (i.e., a person gets what they deserve). That means the strongly-responsible agitator deserves a severe punishment and the weakly-responsible watchdog a minor punishment. As the results of our experiments confirm, such allocations, made unconsciously, can be fostered by a strong implicit justice motive. BJW as an indicator of this motive represents people's need to believe in a just world in which

everyone gets what they deserve and deserves what they get (e.g., Lerner, 1980) and is consequently related to unconsciously-made just decisions, in line with the equity principle of distributive justice. Further research should still focus on circumstances under which such decisions are nonetheless made on the basis of the *need* or the *equality principle* of distributive justice (e.g., Deutsch, 1975).

Limitations

Several limitations to our research should be noted. First, the vignettes were presented to all participants in a fixed order and not randomly. This procedure may well have evoked sequence or memory effects, such as primacy or recency effects (Atkinson & Shiffrin, 1968). The order of the vignettes was determined after careful consideration of the possibility that such effects would occur. We decided to reduce primacy effects by presenting a follower first, to reduce contrast effects by not presenting the watchdog and the agitator consecutively, and to reduce recency effects by not presenting the agitator last. However, we can not exclude sequence effects, and it is possible that our version of the Unconscious-Thought paradigm is sensitive to such influences.

Second, the experimental conditions were implemented to elicit different processing modes in accordance with the paradigm developed by Dijksterhuis and colleagues (e.g., Dijksterhuis, 2004; Dijksterhuis & Nordgren, 2006). However, the presentation of information in this study differed from that used in previous studies. We used vignettes to describe the four adolescents instead of single pieces of information (e.g., Dijksterhuis, 2004) on the screen. Our procedure may have allowed increased unconscious information processing during the reading of the vignettes and before the experimental manipulation. These unconscious processes may have influenced the subsequent decision. To minimize such influences, we were careful in the wording of our general instruction. As Lassiter, Lindberg, González-Vallejo, Bellezza, and Phillips (2009) have pointed out, unconscious thought is superior to conscious thought only when participants are asked to form an impression of four complex stimuli (e.g., four cars); this effect was reversed when participants were asked to memorize as many attributes of the cars as possible. Although it remains an open question whether the same effects would emerge in a justice-specific Unconscious-Thought paradigm, we instructed participants to form an impression of the four students.

Third, in both experiments, we tapped participants' information processing by assessing suggested punishments. This measure may have been artificial for some

participants. It was based on the model of hours of community service used for adolescent offenders in the German judicial system, but this procedure is often adjusted to the individual case. The choice of maximum sentence, in particular, was intuitive and somewhat arbitrary. In Experiment 2, we thus introduced a second, direct measure of responsibility that was presented before the measure of punishment. Both measures showed very similar results.

Fourth, as discussed above, there may be other factors explaining decision quality in our Unconscious-Thought paradigm that were not controlled in our experiments. Especially in complex decision situations, another personality disposition may be important, namely need for cognition. People differ in the way they deal with the complexity of situations or with demanding mental tasks (Cacioppo & Petty, 1982). For example, Lassiter et al. (2009) noted that the superiority of unconscious thought over conscious thought was particularly marked in participants strong in need for cognition. Therefore, future studies using the Unconscious-Thought paradigm should control for relevant personality factors.

Further research is thus needed to investigate the sensitivity of the Unconscious-Thought paradigm to sequence effects in the presentation of stimuli, to control for other personality factors, and to examine whether the present findings are generalisable to other complex justice-specific decisions.

CONCLUSION

Overall, we were able to validate the justice motive theory within a justice-specific decision paradigm. In our view, the BJW as an indicator of the implicit justice motive can be used to predict intuitive justice-specific reactions, such as disdain for victims (Hafer & Bègue, 2005), or the intuitive unconscious processing of justice-specific information. The BJW seems to be connected with complex justice-specific decisions on an unconscious and intuitive level.

The superiority of unconscious thought may have practical relevance in similar decision situations, namely in judicial and especially penal situations. Lay judges and jurors who, unlike professional judges and lawyers, do not have special legal training, have to deal with a vast amount of information of varying levels of relevance. They generally decide on the accused's guilt or innocence as well as on the sentence imposed after careful deliberation of the evidence and consideration of whether and to what extent laws have been infringed. There seems to be little space for intuition. However, our research suggests that more heed should be taken of intuitive processes in decision making. Human resource management is

another applied context in which the present findings are of great relevance. Managers seeking to fill a vacancy often have to sift through numerous applications containing a huge amount of relevant and irrelevant information. Unconscious thought may help them to process this information effectively, to minimize stereotype effects, and to make just and objective decisions (see Smith et al., 2008)—especially if they have a strong implicit justice motive. In sum, we recommend that the justice motive be considered in all types of complex justice-specific situations, from moral dilemmas to personnel selection.

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