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Processing of Unjust and Just Information: Interpretation and Memory Performance Related to Dispositional Victim Sensitivity

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Abstract: With two studies, we tested whether dispositional victim sensitivity involves one of two kinds of biased processing style: either a processing style in which unjust—but not just—information is processed more readily and accurately than neutral information or a processing style in which unjust and just information is processed preferentially over neutral information. In Study 1, victim sensitivity increased the speed with which participants resolved ambiguous sentence fragments in cases in which the resolution yielded an unjust connotation, as well as in cases in which the resolution yielded a just connotation, but not when the resolution was neutral with respect to justice. In Study 2, persons high in victim sensitivity displayed enhanced memory performance for both unjust and just information relative to neutral information over a 1-week retention interval. The results are consistent with the assumption that victim sensitivity is characterized by the activation potential and elaboration of both injustice and justice concepts. Our findings are important for the understanding of how the fear of being exploited among victim-sensitive persons shapes antisocial behaviour. Copyright © 2012 John Wiley & Sons, Ltd.

Key words: personality-congruent information processing; social justice; victim sensitivity; interpretation; memory; Sensitivity to Mean Intentions; processing bias; antisocial behaviour

Perceptions of injustice have costly psychological and potentially also costly economic consequences. At the workplace, for example, feelings of being under-rewarded form a significant risk factor for developing symptoms of insomnia, burnout, and depression (Greenberg, 2006; Siegrist, 2002). Moreover, perceived injustice may lead to absenteeism, decreased loyalty as well as decreased organizational citizenship behaviour, theft, and other forms of retaliation (e.g. Ambrose, Seabright, & Schminke, 2002; Judge, Scott, & Ilies, 2006; Schmitt & Dörfel, 1999). Conversely, perceived justice may help to de-escalate or even prevent costly social conflicts (Mikula & Wenzel, 2000). However, social justice research has revealed systematic differences in how readily persons perceive a specific incident as unjust[1] and how strongly they react emotionally, cognitively, and behaviourally in such situations (van den Bos, Maas, Waldring, & Semin, 2003). Because of the relative consistency and stability of these individual differences, justice sensitivity has been proposed as a personality trait (Lovas & Wolt, 2002; Schmitt, 1996; Schmitt, Neumann, & Montada, 1995), and reliable and valid scales have been developed for its assessment (Schmitt, Baumert, Gollwitzer, & Maes, 2010; Schmitt, Gollwitzer, Maes, & Arbach, 2005). To achieve full insight into how perceptions of injustice come about and how differential reactions to subjective injustice are shaped, it seems crucial to investigate the social–cognitive processes that are involved in individual differences in justice sensitivity. In other words, scientific knowledge about the kind of 'lens' through which people with different degrees of justice sensitivity perceive their social surroundings will help us to understand experiences of injustice and their detrimental consequences in social life.

In general, research on personality-congruent information processing (Rusting, 1998) has contributed substantially to a process-oriented understanding of how personality dispositions function and shape emotions and behaviour in various domains of human life. For example, attention and interpretation biases have been shown to be involved in trait anxiety and to causally contribute to a vulnerability to anxiety (e.g. MacLeod, Rutherford, Campbell, Ebsworthy, & Holker, 2002; Mathews & Mackintosh, 2000). Besides the substantial theoretical relevance for personality research, the practical implications of these and other findings within the information-processing approach have triggered important developments regarding the treatment of anxiety and other emotional disorders (e.g. Lang, Blackwell, Harmer, Davison, & Holmes, 2012).

In the domain of social justice, the first steps have been taken to learn about the cognitive processes involved in individual differences in justice sensitivity. Empirical evidence suggests that justice sensitivity entails the *activation potential* as well as the *degree of elaboration* of concepts related to injustice (Baumert, Gollwitzer, Staubach, & Schmitt, 2011). On the one hand, a high activation potential means that witnessed injustice activates injustice concepts more strongly and

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[1]Please note that we are using the terms injustice/justice and unfairness/fairness interchangeably in this paper.

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that these concepts in turn guide attention and serve as information for the interpretation of ambiguous situations (Higgins, 1996). Consistent with this notion, in studies that primed injustice, persons high in justice sensitivity were found to attend more readily to cues indicating injustice and to interpret ambiguous situations as rather unjust compared with persons low in justice sensitivity (Baumert & Schmitt, 2009; Baumert et al., 2011).

On the other hand, a more elaborate knowledge structure in the domain of injustice should enhance the encoding of new pertinent information so that later retrieval is facilitated (Anderson, 2004; Schneider & Bjorklund, 1992). In line with this assumption, studies have shown that persons high in justice sensitivity display more accurate memory performance for unjust but not for neutral information in newspaper articles compared with persons low in justice sensitivity (Baumert et al., 2011). Similarly, persons high in justice sensitivity were found to have more accurate source memory for faces of cheaters, meaning that they could better distinguish whether they had previously seen a face if it had been paired with information about the unjust behaviour of that person rather than with neutral information (Bell & Buchner, 2010).

The present research builds on the reported findings on the cognitive processes of justice sensitivity and complements them in two regards. First, research on justice-sensitive information processing has been limited to a focus on the processing of *unjust* information compared with neutral information. So far, little is known about whether justice sensitivity also affects the processing of *just* information, yet as we explain below, it is of high importance to examine this possibility. Therefore, in two studies, we tested how justice sensitivity shapes the readiness to draw unjust and just interpretations of ambiguous situations and how justice sensitivity is related to memory performance for unjust and just information.

Second, distinct perspectives can be adopted toward a justice issue, and justice sensitivity has been differentiated accordingly (Schmitt et al., 2005; 2010). Whereas the research cited earlier has revealed personality-congruent information processing for justice sensitivity from a *neutral observer perspective*, it seems important to also highlight the processing specificities involved in the *sensitivity to become a victim* of injustice. Previous studies have employed material relevant from an observer perspective and hence, do not allow conclusions regarding how victim sensitivity shapes the processing of information when an incident is potentially just or unjust from a victim's perspective. In the following paragraphs, we will elaborate on why a combination of these two issues—the selective processing of just information and the relevance of the victim perspective—addresses particularly interesting questions.

PERSPECTIVES OF JUSTICE SENSITIVITY

There are four roles that can be involved in cases of potential injustice, and it has been shown that reactions toward injustice differ qualitatively depending on the role. Specifically, whether persons perceive themselves as victims, perpetrators, passive beneficiaries, or neutral observers of injustice differentially affects their emotions and behavioural tendencies (Mikula, Petri, & Tanzer, 1990; Weiss, Suckow, & Cropanzano, 1999). Drawing on these findings, scales have been developed to separately assess victim sensitivity (e.g. 'I ruminate for a long time when other people are treated better than me'), perpetrator sensitivity (e.g. 'I ruminate for a long time when I treat someone less friendly than others without a reason'),[2] beneficiary sensitivity (e.g. 'I ruminate for a long time about being treated nicer than others for no reason'), and observer sensitivity (e.g. 'I ruminate for a long time when someone is being treated nicer than others for no reason'; Schmitt et al., 2005; 2010). Each sensitivity captures the readiness to perceive injustice from a specific perspective (i.e. the readiness to perceive oneself to be victimized, in case of victim sensitivity; to have actively victimized others, in case of perpetrator sensitivity; to passively benefit from an injustice, in case of beneficiary sensitivity; and to perceive injustice as a neutral bystander, in case of observer sensitivity). Moreover, each sensitivity captures the strength of motivational and cognitive reactions (rumination) as well as of emotional reactions that are typical for the respective perspective (anger, guilt, or moral outrage).

These four perspectives of justice sensitivity share a substantive amount of variance, which appears to reflect a core concern for justice. Nevertheless, they correlate differently with several external criteria (for an overview, see Thomas, Baumert, & Schmitt, 2011). For example, perpetrator, beneficiary, and observer sensitivity perspectives are positively related to empathy, social responsibility, and agreeableness, whereas victim sensitivity is moderately correlated with neuroticism, jealousy, and suspiciousness (Schmitt et al., 2005, 2010). Furthermore, perpetrator, beneficiary, and observer sensitivity perspectives predict prosocial tendencies, such as solidarity (Gollwitzer, Schmitt, Schalke, Maes, & Baer, 2005) and altruistic punishment (Fetchenhauer & Huang, 2004; Lotz, Baumert, Schlösser, Gresser, & Fetchenhauer, 2011). By contrast, victim sensitivity appears to be linked to rather antisocial tendencies. The results of several studies have shown that persons high in victim sensitivity protest and retaliate more strongly than persons low in victim sensitivity when they are treated unfairly (Mohiyeddini & Schmitt, 1997; Schmitt & Dörfel, 1999; Schmitt & Mohiyeddini, 1996; Schmitt, Rebele, Bennecke, & Foerster, 2008). Moreover, victim-sensitive people report committing more norm transgressions, such as the undeclared employment of a carpenter or plagiarization of homework (Gollwitzer et al., 2005; see also Faccenda, Pantaléon, & Reynes, 2009).

Based on these patterns of results, Gollwitzer and colleagues assumed that victim sensitivity—as distinct from the other justice-sensitivity perspectives—may reflect a two-folded motivation (Gollwitzer & Rothmund, 2009; Gollwitzer et al., 2005): On the one hand, victim-sensitive persons seem to care about justice, but on the other hand, they fear they will be exploited by interaction partners. Specifically, Gollwitzer and

[2]A scale for the assessment of perpetrator sensitivity has been developed only recently (Schmitt et al., 2010).

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Rothmund (2009) proposed that victim sensitivity entails a disproportionate aversion to the expectation that others harbour mean intentions. As a consequence, persons high in victim sensitivity are assumed to react more sensitively than persons low in victim sensitivity toward cues that indicate potential selfish intentions in others and thus, a threat of exploitation [Sensitivity to Mean Intentions (SeMI) model; Gollwitzer & Rothmund, 2009]. Indeed, research has shown that victim-sensitive persons give particular weight to negative facial cues and judge others with angry faces as less trustworthy than do less victim-sensitive persons (Gollwitzer, Rothmund, Alt, & Jekel, in press). Also, fully in line with the proposed model, victim-sensitive subjects have been found to be more reluctant to cooperate than less victim-sensitive subjects when information was provided indicating that interaction partners might behave selfishly (Gollwitzer, Rothmund, Pfeiffer, & Ensenbach, 2009) or when the subjects had experienced prior intentional exploitation in an unrelated situation (Gollwitzer & Rothmund, 2011; Rothmund, Gollwitzer, & Klimmt, 2011).

VICTIM SENSITIVITY AND THE PROCESSING OF UNJUST AND JUST INFORMATION

In sum, the behavioural outcomes of victim sensitivity clearly support the SeMI model. However, the social-cognitive processes that drive the effects of victim sensitivity are not fully clear yet. Specifically, it remains to be tested how the motivation to avoid exploitation biases information processing among victim-sensitive persons. For this reason, investigating how victim sensitivity is linked to the processing of unjust and just information compared with information that is not justice related seems particularly interesting.

Importantly, alternative cognitive processes may account for the observed effects of victim sensitivity. On the one hand, the disproportionate aversion to potential exploitation may exclusively bias the processing of unjust but not just information among persons high in victim sensitivity, meaning that (i) in ambiguous situations, victim sensitivity entails the ready expectation of one's own unjust disadvantages but not the ready expectation of just outcomes, and that (ii) victim sensitivity involves enhanced processing of unjust information but not of just information. In this case, reluctance to trust and cooperate among victim-sensitive people could be explained by a selectively enhanced accessibility of unjust information and unjust expectations. On the other hand, it is also possible that victim sensitivity entails biased processing of both unjust and just information. Persons high in victim sensitivity (i) might readily expect unjust as well as just outcomes in ambiguous situations, and (ii) might process both unjust and just information elaborately compared with persons low in victim sensitivity. In other words, the fear of being exploited might not one-sidedly dominate information processing.

Both processing patterns are compatible with the SeMI model, and both processing patterns are plausible because concepts related to injustice and concepts related to justice can be assumed to be represented and organized at least partially independently. The activation of injustice concepts by unjust situational cues might not necessarily co-activate justice concepts (Baumert & Schmitt, 2009). This assumption is suggested by a general positive–negative asymmetry observed in cognitive processes: Information is processed differently depending on whether evaluatively positive or negative concepts are involved (Lewicka, Czapinski, & Peeters, 1992). For example, Hertel and Fiedler (1998) found that semantic priming effects (cooperation vs competition) on cooperative behaviour depended on the valence of the primed words. Whereas positively connoted cooperation primes (e.g. fair) increased cooperative behaviour, this kind of behaviour was decreased by negatively connoted cooperation primes (e.g. exploited) and vice versa for competition primes. Evidently, the primes did not co-activate oppositely valenced concepts from the same semantic category.

Because of the assumed independent activation of injustice concepts and justice concepts, the activation potential and the degree of elaboration of injustice concepts may be shaped independently from the characteristics of justice concepts. Thus, victim sensitivity could entail biased processing only of unjust information with high individual victim sensitivity being characterized by an elevated activation potential as well as an increased elaboration of *injustice concepts*—but not of justice concepts. However, equally biased processing of unjust and just information among victim-sensitive persons is also theoretically compatible with the notion of partially independent injustice and justice concepts. Victim-sensitive persons may at times tend to ruminate about and elaborate on perceived injustices (Schmitt et al., 1995), which may lead to counterfactual construals of the unjust situations (Folger, Cropanzano, & Goldman, 2005) and hence, to the activation of justice concepts. As a consequence of frequent activation and rumination, persons high in victim sensitivity might develop a high activation potential and elaboration not only of injustice concepts but also of justice concepts (Anderson, 2004). In the latter case, persons high in victim sensitivity would readily anticipate unjust as well as just outcomes in ambiguous situations compared with persons low in victim sensitivity, and they would be able to efficiently encode and accurately retrieve unjust as well as just information. Thus, antisocial tendencies of victim-sensitive persons could not be attributed to an accessibility of information exclusively about others' unjust behaviour. Rather, such reactions would most probably result from a stronger weighing of unjust information because of its extreme aversiveness for persons high in victim sensitivity.

So far, no empirical test has been conducted to examine the validity of these alternative predictions regarding victim-sensitive information processing. The results of Gollwitzer et al. (2011) show that persons high in victim sensitivity judge persons with angry or neutral facial expressions as less trustworthy than do persons low in victim sensitivity, but they do not differ when judging persons with friendly expressions. However, these studies cannot distinguish whether this pattern emerges because of preferential processing of unjust cues and biased accessibility of expectations of mean intentions or because of differential weighing of unjust cues despite an equally enhanced accessibility of unjust and just cues and expectations.

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Particularly, victim-sensitive persons may not judge friendly faces as more trustworthy than less victim-sensitive persons presumably because they experience the slightest possibility to be exploited as so aversive that it outweighs the readily processed cues of trustworthiness in the friendly faces.

For justice sensitivity from a neutral observer perspective, prior research suggests that this sensitivity involves individual differences in the activation potential and elaboration of injustice concepts, but as stated earlier, evidence regarding justice concepts is scarce. Most importantly, results regarding one justice-sensitivity perspective cannot easily be generalized to another perspective. To be precise, information processing can be assumed to be perspective specific in two regards. First, because the different perspectives of justice sensitivity have been shown to shape distinct emotional and behavioural consequences (e.g. Schmitt et al., 2005; 2010; Thomas et al., 2011), they also may differ with regard to the bias of unjust and just information processing. Second, the situational perspective that a person adopts should determine which dispositional justice-sensitivity perspective shapes information processing in that situation. Even if parallel patterns of information processing are involved in the different justice-sensitivity perspectives, these patterns should be detectable only or predominantly in relation to the perspective adopted in a specific situation. Consistent with this notion, because the material employed in prior studies on justice-sensitive information processing has given participants the role of neutral observers of injustice or justice, processing tendencies have appeared only in relation to observer sensitivity rather than victim sensitivity (Baumert & Schmitt, 2009; Baumert et al., 2011; Bell & Buchner, 2010). For these reasons, it is necessary to directly test how victim sensitivity shapes information processing and specifically, whether victim sensitivity is linked to biased processing of unjust and just information.

THE PRESENT RESEARCH

We conducted two studies to examine how victim sensitivity shapes (i) the anticipation of unjust and just outcomes in ambiguous situations (an index of the activation potential of injustice concepts and justice concepts) and (ii) the memory performance for unjust and just information, as compared with neutral information (an index of the elaboration of injustice and justice concepts).

In Study 1, we adopted a methodology from anxiety research to assess an individual's readiness to resolve ambiguous sentences to indicate an unjust outcome for the self as well as an individual's readiness to resolve ambiguity to indicate a just outcome for the self (e.g. Calvo, Eysenck, & Castillo, 1997; Calvo, Eysenck, & Estevez, 1994; MacLeod & Cohen, 1993; Mathews & Mackintosh, 2000). Calvo and colleagues (1994; 1997) used reaction times to single words following ambiguous descriptions. They found that persons with high levels of trait anxiety reacted more quickly to words that were congruent with a threatening rather than a non-threatening interpretation of the previous description. This pattern was taken to imply that, while reading the ambiguous sentence, highly anxious persons had readily formed a threatening interpretation that facilitated a reaction to congruent words. Following a similar logic, Mathews and Mackintosh (2000) used sets of ambiguous sentences in which only the last word resolved the ambiguity to describe a negative event or a positive event, respectively. Importantly, disambiguating words were presented as word fragments. Results showed that people trained to interpret ambiguous sentences as negative completed the negative word fragments more readily than the positive word fragments and vice versa for persons trained to interpret ambiguous sentences as positive.

In our Study 1, we used sets of sentences that were ambiguous with regard to injustice and justice. The last words of each sentence resolved the ambiguity to describe either an unfair outcome or a fair outcome, respectively, for the first person narrator. These words were presented as fragments. Our participants were instructed to actively take the perspective of the narrator and to complete the fragments as quickly as possible. We assumed that speeded reactions to unfair (fair) resolutions of the ambiguity would indicate that the person had anticipated an unjust (just) outcome while reading the ambiguous sentence. In Study 2, we assessed recognition accuracy for unjust and just information of participants who varied in their individual victim sensitivity. They were asked to differentiate between information that they had read 1 week earlier without learning instructions versus information that was novel to them.

In both studies, we expected persons high in victim sensitivity to display enhanced processing of *unjust* information. In Study 1, victim-sensitive persons were expected to react more quickly than less victim-sensitive persons to fragments resolving the previous ambiguity to describe an unjust outcome. In Study 2, victim-sensitive persons were expected to display better recognition accuracy for unjust information compared with less victim-sensitive persons.

Results regarding *just* information should allow for a decision regarding whether victim sensitivity involves an exclusive bias of unjust information processing or an equal bias of unjust and just information processing. If the former is the case, in Study 1, persons high in victim sensitivity should be no quicker than those low in victim sensitivity to react to fragments resolving the ambiguous sentences to indicate a just outcome. In Study 2, persons high in victim sensitivity should be no better than those low in victim sensitivity in recognizing just information. By contrast, if victim sensitivity involves equally biased processing of unjust and just information, persons high in victim sensitivity should react faster to both unjust and just fragments compared with persons low in victim sensitivity (Study 1), and they should display more accurate recognition performance for both unjust and just information (Study 2).

In both cases, victim-sensitive information processing should be domain specific rather than unspecific. Victim sensitivity should shape interpretation and memory processes with regard to injustice and potentially also with regard to justice but not with regard to information that is unrelated to injustice or justice. To distinguish the information-processing patterns involved in victim sensitivity from a general processing speed or general memory capacity, in both studies, we employed

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information unrelated to injustice or justice as a standard of comparison. We predicted that victim sensitivity would be unrelated to reaction times to neutral word fragments terminating an ambiguous sentence (Study 1) and that victim sensitivity would be unrelated to recognition accuracy for neutral information (Study 2).

Finally, regarding the specificity of the justice-sensitivity perspective, the material and instructions employed in our studies put participants in the role of potential victims of injustice. Thus, we expected that only or predominantly victim sensitivity should shape information processing. In these situations, the other justice-sensitivity perspectives were not expected to predict information processing.

STUDY 1: UNJUST AND JUST INTERPRETIVE TENDENCIES

Method

Sample

Twenty-four undergraduate psychology students (92% female) participated in a study named 'Hangman' after a well-known game about the guessing of fragmented words. Ages ranged from 18 to 40 years ($M = 22.29$; $SD = 5.18$). All participants spoke German fluently. In return for their participation, students received partial course credit.

Procedure

Participants' justice sensitivity had been assessed via an ostensibly unrelated questionnaire about 8 weeks prior to the experiment. Upon arrival in the laboratory, participants were seated at one of several separate workstations. The experiment began on the computer with the 'Hangman' game. Participants were instructed to work on a word fragment completion task, which will be described in more detail below. After neutral filler fragments, this task contained unjust and just probe fragments designed to record how readily participants resolved an ambiguous sentence to indicate injustice or justice, respectively. The task also contained neutral probe fragments to record baseline reaction times to word fragments. After completion of the task, participants were debriefed, thanked, and dismissed.

Material

Justice sensitivity. Ten-item subscales were employed to separately measure victim sensitivity ($\alpha = .67$), observer sensitivity ($\alpha = .83$), beneficiary sensitivity ($\alpha = .78$), and perpetrator sensitivity ($\alpha = .86$; Schmitt et al., 2010; 2005). Response scales ranged from 0 (*totally disagree*) to 5 (*totally agree*).

Fragment completion task. Participants were asked to read the description of a student's day and to imagine themselves in the narrator's situation. Sentences were presented one by one on the computer screen, and participants pressed a button marked on the keyboard to continue once they had finished reading a sentence. Only some of the sentences contained word fragments that participants were asked to complete. They were instructed to press the button to continue as quickly as possible once they had decided on the correct completion of a fragment. On the next screen, they typed in the missing letters. Then, they received feedback on their performance. If the answer was false, 'error' appeared in red letters on the screen, and in accordance with the rules of the game 'Hangman', one element was added to the figure of a matchstick man on gallows. The complete figure consisted of 11 elements—once completed, the game was lost.

At the beginning of the 'game', three neutral practice fragments were presented to assure understanding of the instructions. Participants then worked through 20 neutral filler fragments, such as 'In the cafeteria, a nice piece of cake catches my attention. The cashier notices and recom_ _nds t_e cake' (correct response: 'recommends the cake'). After the filler fragments, but embedded in the same task, the fragments designed for the assessment of interpretational tendencies followed. In this way, participants were highly practised in fragment completion before the critical fragments were presented.

The text that included the filler fragments was continued by a passage with four *unjust* and four *just probe fragments*. The sets of sentences containing these fragments were ambiguous with regard to injustice or justice. Only the last words influenced whether the incident was unjust or just. These words were presented as fragments. For unjust probes, the completion of the fragments resolved the sentences to describe something unfair (e.g. 'We ordered a taxi. When we leave our house, the taxi is entered by ot_er pe_ple', correct solution: 'other people'; 'My housemates and I have invited friends over. When it is time to clean up, my housemates d_ck _ut', correct solution: 'duck out'). For just probes, fragment completion resulted in the sentences describing something fair (e.g. 'My housemate is talking on our shared telephone for quite some time. I ask her to let me use the phone, and her reaction is very f_ _endly', correct solution: 'friendly'; 'When paying in a food shop, I drop some money without noticing. Another costumer picks it up and gi_es it ba_k', correct solution: 'gives it back'). Besides unjust and just probe fragments, the passage also contained 3 *neutral probe fragments* (e.g. 'During the evening, my friend and I meet some ne_ peo_le', correct solution: 'new people'; 'I am tired when I arrive back a_ h_me', correct solution: 'at home'). All probe fragments were matched in the number of missing letters. Additionally, unjust and just probe sentences were matched in terms of the number of words. Fragments were presented in a random order that was fixed across participants.

Dependent variable. In the fragment completion task, we recorded how quickly (in ms) participants pressed the button to continue after being presented with a sentence containing a probe fragment. Because they were instructed to react as quickly as possible once they had decided on the correct completion and to type in the missing letters of the fragmented words on the next screen, these latencies can be taken as a measure of how readily participants resolved an ambiguous sentence to indicate injustice (reaction time for unjust probes) or justice (reaction time for just probes), respectively.[3] Latencies for

[3]We did not use the latencies of typing in the missing letters because these would be most strongly guided by individual differences in typing speed such that differences because of the contents of the fragments would be difficult to disentangle.

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neutral probes provide a standard of comparison for the speed of word fragment completion, in general.

Results and discussion

Reaction times of unjust, just, and neutral probes were aggregated separately. Before aggregation, error trials in which participants did not complete the fragment correctly were omitted (Fazio, 1990). Error rates were very low and similar across probe types (2.08% for unjust probes, 1.04% for just probes, and 1.39% for neutral probes). Furthermore, one individual's reaction time to an unjust probe was considered to be an outlier and omitted because it was more than 4 standard deviations above the mean reaction time for this particular probe fragment.

Table 1 displays means, standard deviations, and correlations among the variables in Study 1. Reaction times for neutral probes were significantly longer overall ($M = 4916$ ms, $SD = 1674$) than for unjust probes ($M = 4131$ ms, $SD = 1179$), $t(23) = 2.42$, $p = .02$, $d = 0.54$, and just probes ($M = 4164$ ms, $SD = 1227$), $t(23) = 3.72$, $p < .01$, $d = 0.51$. This is not surprising as unjust and just probe sentences were matched in length, whereas this was not the case for neutral probes.

Most importantly, victim sensitivity was negatively correlated with reaction times for unjust probes, and this correlation was marginally significant ($r = -.36$, $p = .08$). This indicates that persons high in victim sensitivity tended to resolve the ambiguous sentence to describe an injustice more readily than persons low in victim sensitivity. Additionally, there was a significant negative correlation of victim sensitivity and reaction times for just probes ($r = -.41$, $p = .04$). Thus, persons high in victim sensitivity resolved the ambiguity to indicate a just incident more readily than persons low in victim sensitivity.The correlation of victim sensitivity and reaction time for neutral probes was non-significant ($r = -.20$, $p = .36$).

This pattern of results partially remained in multiple regression analyses in which we examined whether victim sensitivity predicted reaction times for the unjust and just probes after controlling reaction time for the neutral probes (participants' baseline reaction time). We calculated two separate analyses with reaction times for unjust probes and just probes, respectively, as dependent variables and simultaneously entered reaction time for the neutral probes and victim sensitivity as predictors. For unjust probes, only a tendency toward a significant effect of victim sensitivity remained when reaction time for neutral probes was controlled, $\beta = -.29$, $t(23) = -1.52$, $p = .14$, $\Delta R^2 = .08$. For just probes, victim sensitivity had a significant effect after controlling reaction time for neutral probes, $\beta = -.27$, $t(23) = -2.27$, $p = .03$, $\Delta R^2 = .07$. The results thus suggest that, while reading the ambiguous statements, persons high in victim sensitivity readily formed a just interpretation that speeded their reaction to just probes over and above their baseline speed of word fragment completion. In tendency, there is also evidence for a readiness to form unjust interpretations among those with a higher (vs lower) victim sensitivity, but the effect of victim sensitivity on speed of unjust probe fragment completion was not significant when general speed in neutral fragment completion was controlled. However, it is noteworthy that descriptively, the effect sizes for unjust and just probes were comparable (.08 and .07, respectively).

For justice sensitivity from the observer, beneficiary, and perpetrator perspectives, there were no significant correlations with reaction times for unjust and just probes. We conducted supplementary multiple regression analyses (with reaction times for unjust probes and just probes, respectively, as dependent variables) and entered all four justice sensitivity perspectives simultaneously as predictors. Only victim sensitivity was a significant predictor of reaction time for unjust probes, $\beta = -.48$, $t(23) = -2.17$, $p = .04$, $\Delta R^2 = .20$, and just probes, $\beta = -.56$, $t(23) = -2.60$, $p = .02$, $\Delta R^2 = .27$. This finding is consistent with our predictions as we expected victim sensitivity to be most relevant for information processing in the present study because the material and instructions employed put participants in a victim perspective and the information to be processed was relevant specifically from a victim perspective.

STUDY 2: MEMORY PERFORMANCE FOR UNJUST AND JUST INFORMATION

As outlined in the introduction, in Study 2, we assessed memory performance for unjust and just information to test whether victim sensitivity involves enhanced processing of unjust information, but not of just information, or whether

Table 1. Means, standard deviations, and correlations among variables in Study 1

		1)	2)	3)	4)	5)	6)	7)
1)	Victim sensitivity	—						
2)	Observer sensitivity	.30	—					
3)	Beneficiary sensitivity	−.02	.51**	—				
4)	Perpetrator sensitivity	−.08	.32	.54**	—			
5)	Unjust probes	−.36*	−.23	−.24	−.21	—		
6)	Just probes	−.41**	−.18	.01	.07	.62***	—	
7)	Neutral probes	−.20	.01	.04	.38*	.42**	.81***	—
	Mean	3.13	3.01	2.78	3.70	4131	4164	4916
	SD	0.55	0.73	0.79	0.71	1179	1227	1674

Note: $N = 24$. Response scales ranged from 0 (*fully disagree*) to 5 (*fully agree*).
Unjust probes = mean reaction times for unjust probe fragments (ms); just probes = mean reaction times for just probe fragments (ms); neutral probes = mean reaction times for neutral probe fragments (ms); SD = standard deviation.
*$p < .10$. **$p < .05$. ***$p < .01$.

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victim-sensitive processing is equally biased for unjust and just information. We argued that persons high in victim sensitivity should have more elaborate injustice concepts than persons low in victim sensitivity and thus, should display more accurate memory performance for unjust information. With regard to memory performance for just information, we assumed that, because of more extensive rumination about counterfactuals in unjust situations, persons high in victim sensitivity may also develop more elaborate justice concepts than persons low in victim sensitivity so that encoding and retrieval of just information is facilitated. If this is the case, victim sensitivity should be related to symmetrically enhanced memory performance for unjust and just information. By contrast, if victim sensitivity is characterized by a one-sided processing bias, persons high in victim sensitivity should display more accurate memory performance for unjust information but not for just information.

Method

As a justice issue for testing our hypotheses, we chose the ongoing political debate in Germany about the selection of Elite Universities. Beginning in 2006, German universities could apply—through a competitive procedure—for the status of an 'Elite University'. Substantial additional funding from the federal government followed from this designation. The Elite Program brought a serious reform of the highly egalitarian German academic system toward more competition, making it a major justice issue.

Sample

Undergraduate students were recruited in introductory courses with majors in psychology, social science, or educational science. Data were collected before the first selection of Elite Universities in 2006. The data from 35 participants (80% female) could be matched across occasions of measurement by means of an anonymous personal code. Ages ranged from 18 to 41 years ($M = 23.29$, $SD = 5.86$). All participants spoke German fluently. Psychology students received partial course credit for their participation.

Procedure

Our design included three occasions of measurement. At Time 1, justice sensitivity was assessed in mass-testing sessions during class. At Time 2, two months later, the learning situation followed. We created an incidental learning paradigm by being sure not to frame the situation as a memory test. Rather, we told participants that we wished to inform them about the upcoming selection procedure and assess their opinions on the introduction of Elite Universities by the government. First, participants were given a written scenario about the selection of Elite Universities in Germany. They were instructed to imagine that Elite Universities had already been selected and that their own university was not among them. It was further reported that graduates from Elite Universities would definitely have better chances on the job market and that the participants' own chances of getting jobs would be lower. Pilot testing of the scenario ($N = 165$; 59% female; age range: 18–33 years; $M = 21.6$, $SD = 2.66$) had confirmed that the scenario was perceived by students as personally unjust ($M = 3.23$, $SD = 1.41$; response scales from 0 = *strongly disagree* to 5 = *strongly agree*), personally meaningful ($M = 3.61$, $SD = 1.42$), and realistic ($M = 3.85$, $SD = 1.27$).

After reading the scenario, participants received, in a random but fixed order, 21 pieces of information on the procedural fairness of the selection process. Seven pieces of information suggested an unfair procedure (e.g. 'Some universities tried to influence the selection procedure by calling themselves Elite Universities beforehand'; 'The national student delegation was not heard by the selection committee'), another seven suggested a fair procedure (e.g. 'The Elite competition will be repeated after 5 years'; 'The selection committee carefully considered each application'), and for the remaining seven pieces, procedural fairness was not relevant (e.g. 'Elite Universities are also called "Lighthouse Universities"'; 'In other countries, interest in the German debate about the selection of Elite Universities is limited'). Participants were asked to rate the injustice or justice of each piece of information on a 7-point scale ranging from −3 (*very unjust*) to +3 (*very just*).

At Time 3, seven days after the learning situation (Time 2), a recognition test was implemented. Participants again read the scenario. They were then given 42 pieces of information in a random but fixed order: 14 suggesting an unfair procedure, 14 suggesting a fair procedure, and 14 irrelevant with regard to procedural fairness. Half of the pieces of information in each of the three categories were those that participants had seen a week earlier; the other half was novel. Participants were asked to rate how certain they were that they had read each of the 42 pieces of information 1 week earlier on a 6-point scale from 0 (*certainly not read*) to 5 (*certainly read*).

After the recognition test, participants rated their perceptions of the personal significance of the initial scenario about the negative consequences of the selection of Elite Universities on response scales from 0 (*not at all*) to 5 (*very much*). Finally, they were thanked for their participation, debriefed, and informed about the actual state of the political debate on Elite Universities.

Material

Justice sensitivity. At Time 1, the same 10-item subscales (Schmitt et al., 2005; 2010) as in Study 1 were employed to measure victim sensitivity ($\alpha = .87$), observer sensitivity ($\alpha = .80$), and beneficiary sensitivity ($\alpha = .88$). Perpetrator sensitivity was not included in the present study (see Footnote 2). All items were answered on a 6-point scale ranging from 0 (*totally disagree*) to 5 (*totally agree*).

Pieces of information. A pool of unjust and just pieces of information was constructed in accordance with procedural fairness standards (Leventhal, 1980; Thibaut & Walker, 1975; Tyler, 2000). The most unjust and the most just pieces of information were selected out of this pool in two prestudies. In the first prestudy, 88 students (66% female; age range: 19–40 years; $M = 24.74$, $SD = 3.85$) rated 34 pieces of information about the selection procedure on a scale from 0 (*very unjust*) to 5 (*very just*). The eight items with the

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lowest ratings were selected as suggesting procedural unfairness ($M = 1.11$, $SD = 0.59$), and the eight items with the highest ratings were selected as suggesting procedural fairness ($M = 4.10$, $SD = 0.48$), $t(87) = 38.62$, $p < .01$, $d = 5.56$. In a second prestudy ($N = 35$), this procedure was repeated with a new set of 24 pieces of information. The six items with the lowest ratings were selected as suggesting procedural unfairness ($M = 0.78$, $SD = 0.64$), and the six items with the highest ratings were selected as suggesting procedural fairness ($M = 4.27$, $SD = 0.41$), $t(34) = 25.38$, $p < .01$, $d = 6.49$.

A subsequent third prestudy ($N = 15$; 47% female; age range: 22–62 years; $M = 29.40$, $SD = 10.08$) confirmed that all 14 unjust and all 14 just pieces of information were rated as highly relevant for justice matters (unjust information: $M = 4.26$, $SD = 1.00$; just information: $M = 4.39$, $SD = 0.57$; response scale from 0 = *not at all relevant* to 5 = *very relevant*), $t(14) < 1$, $p = .39$, $d = 0.16$. In contrast to unjust and just information, a set of 14 neutral pieces of information was rated as irrelevant to justice matters ($M = 1.05$, $SD = 0.68$), $t(14) = -10.95$, $p < .01$, $d = -4.55$.

Half of the unjust, just, and neutral pieces of information were selected at random to be presented in the learning situation. For the recognition test, all 42 items were used.

Dependent variables. Signal detection theory is a method for analyzing recognition performance that allows for distinguishing recognition accuracy from response bias (Macmillan & Creelman, 1991; Stanislaw & Todorov, 1999). d' (d prime) is an unbiased measure for recognition accuracy that controls for differential response criteria. d' was calculated separately for unjust, just, and neutral information. We dichotomized answers on the recognition test. For old information, answers from 3 to 5 were counted as hits. For new information, answers from 3 to 5 were counted as false alarms (as noted earlier, 0 = *certainly not read* and 5 = *certainly read*). Then, d' was obtained by converting hit rates and false alarm rates into z scores and subtracting the z score that corresponded to the false alarm rate from the z score that corresponded to the hit rate for each participant.[4] A d' score of 0 indicates pure guessing—responding by chance. The higher a person's d', the better his or her recognition.

In addition, as a measure of response bias, Beta was calculated, again separately for unjust, just, and neutral information. If a subject favours neither response direction systematically, Beta is 1. Values less than 1 indicate a bias toward responding with *certainly read*, whereas values greater than 1 indicate a bias toward responding with *certainly not read*.

Results and discussion

Three participants indicated that they did not perceive the scenario on the selection of Elite Universities to be personally significant by responding 0 (*not at all*). Their data were omitted from the final analyses because it would not be reasonable to assume that they would adopt a victim perspective for the scenario. Thus, their level of victim sensitivity could not be expected to impact their memory performance. All remaining participants perceived the scenario to be personally significant to some degree ($M = 3.21$, $SD = 1.09$).

Table 2 reports means, standard deviations, and zero-order correlations for the justice sensitivity perspectives and measures of recognition performance (d', Beta) for unjust, just, and neutral information. Overall, recognition accuracy d' was significantly higher for unjust information than for neutral information, $t(31) = 4.48$, $p < .001$, $d = 0.76$, and for just information, $t(31) = 6.69$, $p < .001$, $d = 1.20$. Recognition accuracy for just information and neutral information did not differ, $t(31) = 0.47$, $p = .64$, $d = 0.43$. This main effect of type of information may be understood in terms of mood congruency (Blaney, 1986): The scenario on Elite Universities that was presented before learning as well as before the recognition test probably induced negative affective reactions in our participants; this in turn facilitated accurate memory performance for affectively congruent information (Isen, 1984). There was no significant correlation between victim sensitivity and a response bias Beta regarding the certainty of having read the different types of information.

Most importantly, as predicted, victim sensitivity was significantly correlated with recognition accuracy d' for unjust information ($r = .46$, $p < .01$). Moreover, we found a significant positive correlation of victim sensitivity and recognition accuracy d' for just information ($r = .52$, $p < .01$). Thus, persons high in victim sensitivity showed more accurate recognition of unjust as well as of just information than did persons low in victim sensitivity. For neutral information, there was no significant correlation with victim sensitivity ($r = -.04$, $p = .85$). This indicates that victim sensitivity involves a memory advantage for unjust information and for just information but not for non-justice-related information.

Results of multiple regression analyses were consistent with this interpretation. We simultaneously entered d' for neutral information and victim sensitivity as predictors. When recognition accuracy d' for unjust information was regressed onto victim sensitivity controlling for d' for neutral information, the effect of victim sensitivity remained significant, $\beta = .46$, $t(29) = 3.75$, $p < .01$, $\Delta R^2 = .23$. Similarly, the effect of victim sensitivity on recognition accuracy d' for just information also remained significant when d' for neutral information was controlled for, $\beta = .52$, $t(29) = 3.53$, $p < .01$, $\Delta R^2 = .27$.

Exploratory analyses on the justice/injustice ratings given in the learning situation revealed that persons high in victim sensitivity did not rate the information differently than persons low in victim sensitivity. Specifically, victim sensitivity did not correlate with the justice/injustice ratings for unjust information ($r = -.13$, $p = .46$), just information ($r = .06$, $p = .71$), or neutral information ($r = .09$, $p = .62$).[5]

[4]To prevent cases of indeterminate d', we employed the so-called loglinear approach (Hautus, 1995; Stanislaw & Todorov, 1999). Before calculating hit and false alarm rates, 0.5 was added to the number of hits and to the number of false alarms, and 1 was added to the number of signal trials and the number of noise trials. The same procedure was adopted for calculating Beta.

[5]Note that, whereas in ambiguous situations, justice/injustice ratings should depend on justice sensitivity (Baumert & Schmitt, 2009), in unambiguously fair or unfair situations, justice/injustice ratings can be expected to be independent from justice sensitivity (Baumert et al., 2011). By contrast, consistent with the SeMI model (Gollwitzer & Rothmund, 2009), the subjective aversiveness to, and reactions toward, unambiguous injustice should be shaped by justice sensitivity.

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Table 2. Means, standard deviations, and correlations for justice sensitivity and the dependent variables in Study 2

		1)	2)	3)	4)	5)	6)	7)	8)	9)
1)	Victim sensitivity	—								
2)	Observer sensitivity	.32*	—							
3)	Beneficiary sensitivity	.35*	.66***	—						
4)	d' (unjust)	.46***	.19	.16	—					
5)	d' (just)	.52***	−.12	−.17	.49***	—				
6)	d' (neutral)	−.04	.22	.04	.54***	.28	—			
7)	Beta (unjust)	−.11	.12	−.07	−.01	.20	.03	—		
8)	Beta (just)	.23	−.04	−.17	−.00	.46***	−.00	.22	—	
9)	Beta (neutral)	.14	.31*	.25	−.10	−.15	−.03	.20	.09	—
	Mean	3.18	2.95	2.85	1.98	1.07	1.40	1.70	1.51	1.11
	SD	0.79	0.69	0.91	0.76	0.77	0.78	1.04	1.02	0.68

Note: $N = 32$. Response scales ranged from 0 (*fully disagree*) to 5 (*fully agree*).
d' = recognition accuracy for unjust, just, and neutral information, respectively; Beta = response bias for unjust, just, and neutral information; SD = standard deviation.
*$p < .10$. **$p < .05$. ***$p < .01$.

This indicates that the better memory performance of persons high in victim sensitivity cannot be explained by a different degree of fairness or unfairness attributed to the information on the selection procedure. Rather, these results are consistent with our interpretation that victim sensitivity facilitates encoding and retrieval because of more elaborate concepts in the domain of injustice and justice.

As in Study 1, the effect of justice sensitivity on memory performance was dependent upon the perspective of a victim. For observer and beneficiary sensitivity, there was no significant correlation with recognition accuracy d' regarding any kind of information. Again, we conducted supplementary multiple regression analyses and simultaneously entered observer sensitivity, beneficiary sensitivity, and victim sensitivity as predictors. The effect of victim sensitivity remained significant for d' for unjust information, $\beta = .44$, $t(28) = 2.53$, $p = .02$, $\Delta R^2 = .18$, and for d' for just information, $\beta = .64$, $t(28) = 4.29$, $p < .01$, $\Delta R^2 = .38$. The other sensitivities had no significant effects. This suggests that for information that is relevant from a victim's perspective, victim sensitivity uniquely shapes information processing. In this sense, the results of Studies 1 and 2 consistently speak in favour of perspective-specific information processing of justice sensitivity.

GENERAL DISCUSSION

By adopting a social-cognitive approach to justice-related personality in the present research, we aimed to elucidate information processing involved in dispositional justice sensitivity from a victim perspective. In two studies, we tested whether victim sensitivity is related to a selectively biased processing style, with unjust, but not just information being processed preferentially or rather to equally biased processing of unjust and just information. This question appears particularly intriguing with regard to a more profound theoretical understanding of how victim sensitivity shapes antisocial tendencies and with regard to practical implications of how costly reactions to subjective unfairness can be prevented or mitigated.

Our results consistently indicate that victim sensitivity involves symmetrically biased processing of unjust and just information. In Study 1, persons high in victim sensitivity tended to more readily resolve ambiguous sentences ending with words indicating an unjust interpretation compared with persons low in victim sensitivity. This was also true for ambiguous sentences ending with words indicating a just interpretation. However, there was no significant effect of victim sensitivity on completing sentences ending with words indicating a neutral interpretation. These results support the assumption that high victim sensitivity is characterized by an increased activation potential of both injustice and justice concepts. In ambiguous situations, both types of concepts appear to be activated more strongly among victim-sensitive persons and thus raise the accessibility of both unjust and just interpretations (Higgins, 1996). In Study 2, persons high in victim sensitivity displayed more accurate memory performance for unjust as well as for just information compared with persons low in victim sensitivity. This finding is consistent with an increased elaboration of injustice and justice concepts among victim-sensitive persons. Unjust and just information can be better encoded into an elaborate pertinent memory structure so that retrieval is facilitated (Anderson, 2004; Schneider & Bjorklund, 1992).

As expected, in both studies, victim-sensitive information processing was domain specific. We employed neutral information to provide a standard of comparison representing general domain-unspecific processing tendencies. Regarding both interpretation and memory, victim sensitivity was shown to shape the processing of unjust and just information over and above a general processing speed for fragment completion or general memory capacity, respectively. To investigate the domain specificity of victim-sensitive information processing in more detail, future studies may wish to compare the processing of unjust and just information with the processing of negative and positive information that is matched in valence but not related to matters of injustice or justice. By doing so, it will be possible to distinguish the processing of semantic categories of injustice and justice from the general processing of negative and positive valences (e.g. Hertel & Fiedler, 1998).

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Moreover, in the present studies, we take a further step toward understanding the specificity of perspectives of justice sensitivity. As our results emphasize, if the stimulus materials put participants in the perspective of potential victims of injustice, it is victim sensitivity that shapes information processing. In other words, the perspective that is evoked in the situation appears to determine which justice-sensitivity perspective (predominantly) shapes information processing in this situation—and presumably shapes subsequent emotion and behaviour as well. Furthermore, when compared with previous findings on observer-sensitive interpretation and memory performance (Baumert & Schmitt, 2009; Baumert et al., 2011), the present findings suggest that—at least partially—parallel processes may be involved in the justice-sensitivity perspectives. Similar to observer sensitivity, victim sensitivity seems to be characterized by the activation potential and elaboration of injustice and justice concepts. To systematically test what kinds of processes are involved in the different justice-sensitivity perspectives in a parallel manner as well as to test what kinds of processes distinguish victim sensitivity from the other justice sensitivities, it will be necessary to design studies that vary the stimulus material to put participants into different perspectives.

IMPLICATIONS FOR THE EXPLANATION OF ANTISOCIAL TENDENCIES

Importantly, our studies are informative for the SeMI model of victim sensitivity (Gollwitzer & Rothmund, 2009) and thus for the understanding of how the antisocial tendencies of victim-sensitive persons can be explained—and ultimately changed. According to the SeMI model, victim sensitivity involves a disproportionately high aversiveness to the expectation of other people's unfair behaviour that leads to stronger reactions toward unjust cues and provides the subjective legitimation for one's own norm transgressions to avoid being exploited. Until now, we did not know the level of processing at which the fear of being exploited would shape reactions in ambiguous situations, such as social dilemmas. Specifically, previous results on victim-sensitive judgments and decision making (Gollwitzer & Rothmund, 2011; Gollwitzer et al., 2009) have been compatible (i) with the preferential processing of unjust but not just information as well as (ii) with the preferential processing of both unjust and just information coupled with a stronger weighing of unjust cues when faced with decisions regarding trust and cooperation. Our studies show that victim sensitivity enhances the processing not only of unjust information but also of just information. Hence, in enticing situations, norm transgressions of persons high in victim sensitivity (e.g. evading taxes by undeclared employment; Gollwitzer et al., 2005) do not appear to be caused by a selective accessibility of information about others' unfair behaviour. Rather, it seems more plausible that persons high in victim sensitivity weigh information about the potential unfairness of others more strongly compared with information about others' fair behaviour when making decisions about their own justice-related behaviour and when judging the appropriateness of their own violations of justice norms (Faccenda et al., 2009; Gollwitzer et al., 2011; 2005). In general, research has shown that people give more weight to information about others' immoral behaviour than to their moral behaviour when making trait inferences, presumably motivated by avoidance goals (e.g. Wojciszke, Brycz, & Borkenau, 1993). Future research could more directly assess the weighing of unjust over just information to test whether it is indeed related to individual victim sensitivity.

Regarding the prevention of norm transgressions and antisocial behaviour in social dilemma situations, the present studies suggest that an emphasis of information about other people's fair behaviour and norm compliance (Goldstein, Cialdini, & Griskevicius, 2008) may not be sufficient to mitigate the negative consequences of the fear of being exploited among victim-sensitive persons. Because of the high activation potential and elaboration of injustice and justice concepts, victim-sensitive persons will most probably have already processed or anticipated this kind of information. Instead, it may be crucial to discount information about others' unjust behaviour or to provide credible evidence that injustice is redressed and norm violations are punished (Faccenda et al., 2009; Fehr & Gächter, 2002). By doing so, cues of potential exploitation may be outweighed so that they do not provide a legitimation for a person's own norm violations.

Despite the theoretical and practical relevance of our findings, further assumptions of the SeMI model remain to be tested with regard to the nature of biases in processing patterns of victim sensitivity. Notably, the results of the present studies are particularly relevant for the understanding of victim-sensitive information processing in *ambiguous* situations (see Study 1), as in social dilemma situations with anonymous interaction partners, or in situations in which unjust *and* just information are provided (see Study 2). However, it is possible that the pattern of equally biased processing of unjust and just information may shift in a situation in which unambiguous injustice is experienced. As prior research on concept activation suggests, injustice concepts and justice concepts may become activated partially independently from each other (Baumert & Schmitt, 2009; Hertel & Fiedler, 1998; Lewicka et al., 1992). Thus, the experience of intentional exploitation may strongly activate injustice concepts among victim-sensitive persons without co-activating justice concepts. In subsequent situations, victim-sensitive persons may use the activated injustice concepts to form biased expectations of injustice and encode and retrieve unjust information selectively. These assumptions are fully in line with the SeMI model, which posits that for highly victim-sensitive persons, being confronted by injustice triggers a state called a 'suspicious mindset', characterized by the asymmetrically enhanced processing of injustice (Gollwitzer & Rothmund, 2009). In light of our findings, it seems particularly important to test under which situational conditions the symmetrically biased processing pattern of victim sensitivity as observed in the present studies might shift toward preferential processing of unjust but not just information. Future research may combine the present approach with that of Baumert and Schmitt (2009), who compared the effects of priming injustice versus priming justice on subsequent information processing. Besides the

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independent activation of injustice concepts, the independent activation of justice concepts may be possible as well. This would mean that under certain situational conditions (e.g. unambiguous experiences of fair treatment), victim-sensitive persons may be biased toward processing just information but not unjust information and thus, might adopt a more lenient view on justice matters than less victim-sensitive persons.

LIMITATIONS

Clearly, the small sample sizes call for replication of the present findings. Effects might be even more pronounced if the reliability of the dependent measures is improved by including more items as probes in the fragment completion task (Study 1) and in the recognition task (Study 2). In Study 1, our categorization of the probes as unjust, just, and neutral should be validated by independent raters like we had performed in Study 2. In addition, potential confounds of the content of probes and the category they belong to could be avoided by counterbalancing across participants which of the three fragment types (unjust, just, and neutral) is combined with each sentence.

A further limitation is our focus on only two types of cognitive process: interpretation and memory performance. Future studies may complement our research, for example, by assessing attentional processes, which could provide more evidence for an increased activation potential of injustice and justice concepts among highly victim-sensitive persons. Furthermore, comparing short-term and long-term memory effects may provide additional evidence for the idea that victim sensitivity entails the elaboration of injustice and justice concepts. Because of the long retention interval between encoding and retrieval in Study 2, ruminative processes are a plausible additional explanation—besides facilitated encoding and retrieval—for the improved memory performance observed among victim-sensitive persons. As repeated thoughts about injustice are assumed to be a component of victim sensitivity (Schmitt et al., 1995), it seems important to test memory performance under varying availability of cognitive resources for rumination during the retention interval.

CONCLUSION

By providing the first evidence that dispositional victim sensitivity entails the activation potential and elaboration of both injustice concepts and justice concepts, our studies are a step toward a more detailed understanding of the social-cognitive processes determined by victim sensitivity. Specifically, the enhanced processing of unjust and just information involved in victim sensitivity suggests that stronger weighing of cues of potential exploitation may be the crucial determinant of antisocial tendencies among victim-sensitive persons. Moreover, our findings point to plausible moderating conditions, such as experiencing unambiguous injustice or unambiguous justice, under which processing may shift from being equally enhanced for unjust and just information to an exclusive bias for unjust information or just information, respectively. Investigating personality-congruent information processing helps us to refine an explanatory model of victim sensitivity and to compare it with the other perspectives of justice sensitivity. Beyond the theoretical impact of this approach, our findings are of practical relevance for tailoring interventions to effectively prevent or mitigate the detrimental consequences of victim-sensitive peoples' fears of being exploited.

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