Do Just World Believers Process Unfair Authoritative Decisions Differently?

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Cette étude a examiné si l'effet d'interaction fréquemment observé du caractère favorable d'un résultat et du degré de justice d'une procédure sur la perception et les réactions face à des décisions pouvait être la conséquence du besoin des personnes de croire en un monde juste. Des étudiants en administration ($n = 121$) ont participé à une simulation de type "in-basket" calquée sur la réalité organisationnelle. De façon indépendante de l'exercice de simulation, les étudiants ont aussi été questionnés sur leur croyance d'un monde juste. Comme prévu, les résultats indiquent que, seulement pour ceux qui croient fermement en un monde juste, un résultat favorable peut diminuer la perception d'injustice causée par une procédure biaisée, et une procédure non biaisée peut diminuer la perception d'injustice causée par un résultat non favorable. De plus, autant ceux avec des croyances fortes que ceux avec de faibles croyances ont exprimé de la colère quand le résultat était non favorable que lorsqu'il était favorable. Cependant, les résultats ont démontré qu'une procédure biaisée a amené plus de colère qu'une procédure non biaisée seulement pour ceux ayant une forte croyance en un monde juste. Aucun effet d'interaction n'a été trouvé pour le comportement de protestation.

This experiment examined whether the frequently observed interactive effect of outcome favorability or fairness and procedural desirability or fairness on perceptions of and reactions to decisions of authorities might be the consequence of people's need to believe in a just world. One hundred and twenty-one business students participated in an in-basket simulation that closely resembled a work organisation. Independent of the in-basket exercise, participants were asked about their just world belief. As expected, the findings indicate that only among those who strongly believe in a just world, a favorable outcome can decrease people's perception of injustice caused by a biased procedure and an unbiased procedure can decrease people's perception of injustice caused by an

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unfavorable outcome. In addition, both strong and weak believers reported more anger when the outcome was unfavorable than when it was favorable. But only among those with a strong just world belief, a biased procedure led to more anger than an unbiased procedure. We did not find interactive effects on aggressive voice (i.e. protest behavior).

INTRODUCTION

The way employees respond to decisions of authorities, such as a decision to give or not to give a salary increase, or to assign or not to assign a certain challenging task, may have an important impact on their relationship with these authorities and eventually on the effectiveness of the organisation (Hagedoorn, Van Yperen, Van de Vliert, & Buunk, 1999; Rusbult, Farrell, Rogers, & Mainous, 1988; Sheppard, Lewicki, & Minton, 1992). Research has frequently shown that outcome favorability or fairness and procedural desirability or fairness interactively affect perceptions of and reactions to decisions of authorities (for a review, see Brockner & Wiesenfeld, 1996). More precisely, it has been demonstrated that, when people are confronted with an unfavorable or unfair outcome, desirable or fair procedures can reduce negative perceptions and reactions, including the perception that the decision is unfair, dissatisfaction with the supervisor, the intention to leave the organisation, and theft (e.g. Greenberg, 1987, 1993; Magner, Welker, & Johnson, 1996). Similarly, a favorable or fair outcome can decrease people's negative reactions to an undesirable or unfair procedure.

Brockner and Wiesenfeld (1996) reported that across the many studies they reviewed the form of the interaction effect was identical regardless of whether the outcome referred to valence or fairness in terms of equity. An outcome is equitable when an individual's input/outcome ratio is equal to that of relevant others, such as co-workers (Adams, 1965; Walster, Walster, & Berscheid, 1978). The valence and equity of an outcome are conceptually different but they are positively linked. People find favorable outcomes more equitable than unfavorable ones, probably because they tend to overestimate their investments (Messick & Sentis, 1979; Walster et al., 1978). Different studies that reported the interaction effect used different operationalisations of procedural justice reflecting various aspects of formal procedures, such as the opportunity to voice one's opinions, the choice to participate or not, and the accuracy of the procedure (e.g. Cropanzano & Folger, 1989; Folger, Rosenfeld, & Hays, 1978; Van den Bos, Vermunt, & Wilke, 1995; Van Yperen, Hagedoorn, Zweers, & Postma, 1999), or features of the interpersonal behavior of the authority, such as providing adequate and clear explanations for decisions, giving information in a sensitive manner, and showing respect for the recipient (i.e. interactional justice; e.g. Folger & Martin, 1986; Gilliland & Beckstein, 1995; Greenberg, 1993, 1994). Furthermore, based on an inspection of the means of many studies that reported the interaction effect

described above, Brockner and Wiesenfeld (1996) concluded that an artifactual explanation in the form of a ceiling effect could not adequately account for the interaction.

Although the interaction effect between outcome favorability or fairness and procedural desirability or fairness has been frequently observed, theoretical explanations for the effect have rarely been examined (Brockner & Wiesenfeld, 1996). We will try to bridge this gap by studying explanatory conditions under which the effect is present. Brockner and Wiesenfeld (1996) suggested that the interaction reflects a sense-making process; people seek an answer to the question why they received an unfavorable outcome or why the procedure was biased. Therefore, they state that the interaction should be most pronounced for those who did not expect an unfavorable outcome or biased procedure at all, including those who firmly belief in a just world.¹ Not only are just world believers assumed to count on fairness, they are also expected to be motivated to protect their just world belief (Lerner, 1977, 1980). In the remainder of this introduction, we will reason that the interactive effect of outcome favorability or fairness and procedural desirability or fairness on perceptions of and reactions to decisions of authorities may be due to strong just world believers' need to perceive the decision as fair.

According to the just world hypothesis (Lerner, 1977, 1980), people have the need to believe in a world in which they get what they deserve and deserve what they get. Otherwise, it would be very irrational to engage in long-term goal-oriented behavior such as working hard and performing well in order to achieve positive outcomes and to avoid negative ones. Thus, it seems reasonable that people will get upset and will try to protect their belief when they are confronted with information which disconfirms their notion that the world is a just place. Because research has shown that individuals differ in the strength of their belief in a just world (e.g. Rubin & Peplau, 1973, 1975), we further assume that the stronger one's belief the more upset one will be when the just world notion is disconfirmed.

Strong just world believers are expected to try to reduce the imbalance between their belief in a just world and disconfirming information of that belief in such a way that their belief is protected. Lerner (1980) has suggested that behavioral (e.g. physical restitution of justice) as well as cognitive (e.g. reinterpretation of the situation) strategies may be used to protect the belief

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¹ It has to be noted that an unfavorable outcome may be precisely the outcome strong just world believers expect when they do not exert themselves very much to reach their goal. However, because people tend to overestimate their investments (Messick & Sentis, 1979), it seems plausible that strong just world believers anticipate their outcomes to be favorable rather than unfavorable (Brockner & Wiesenfeld, 1996).

in a just world. Studies with regard to people's reactions to the deprivation of others indicate that people protect their belief in a just world by derogating the characters of innocent victims (e.g. by seeing them as lazy, stupid, naive, inferior, and morally defective) or by exaggerating the person's behavioral responsibility for his or her fate (e.g. Lerner, 1977; Lerner & Miller, 1978). The more strongly people believe in a just world the more likely they are to see victims as deserving their misfortune and as bringing "it" upon themselves (Rubin & Peplau, 1975).

With regard to the present study, studies investigating strong and weak believer's reactions to a *personal* injustice are particularly relevant. With respect to decisions of authorities, people affected by a decision that contains an unfavorable outcome or a biased procedure might experience thoughts of unfairness (cf. Rutte & Messick, 1995). Hence, such a decision forms a potential threat to these people's belief in a just world. In this situation, people might protect their belief by *perceiving* the outcome of the decision and the procedure that led to it as just. Indeed, Hafer and Olson (1989) showed that the strength of people's belief in a just world influences their reaction to an unfavorable outcome. Working on a computer task, participants tried to reach a performance goal that had desirable consequences. All participants failed and thus received an unfavorable outcome. As expected, strong just world believers judged the experiment as fairer than did weak believers. Similarly, a study of Ball, Klebe Trevino, and Sims (1994) demonstrated that disciplined employees perceived distributive as well as procedural characteristics of a punishment event as more positive when they believed in a just world more strongly.

Presumably, the motivation to protect one's belief in a just world affects the way fairness information is processed. According to Lazarus and Folkman (1984), beliefs affect appraisal processes in at least two ways. First, beliefs guide individuals to determine what is salient in a certain situation. Second, beliefs help individuals determine the meaning or implications of an event. There is empirical evidence that people tend to pay more attention to information the more it confirms their attitude or belief (selective attention) and that they tend to interpret (ambiguous) information in such a way that it is consistent with their beliefs (selective interpretation; Fiske & Taylor, 1991). Consequently, due to their need to perceive the world as a just place, just world believers will weigh positive information about the fairness of the situation more strongly than negative information.

The cognitive-affective system theory (Mischel & Shoda, 1995) asserts that individual goals, values, and beliefs, on the one hand, and situational features, on the other, interactively lead to cognitive, affective, and behavioral reactions. In other words, a certain belief does not automatically lead to a specific cognitive or behavioral reaction, but situational features, such as ambiguity, moderate this relationship. Applied to authoritative decisions,

strong just world believers will be motivated to perceive decisions as fair but may not actually do so in all situations. A psychological justification for an unfavorable outcome when one invested a lot or for a biased procedure may be possible only if the situation is somewhat ambiguous. For example, when there is a lack of information or an inconsistency in the information about the potential unjust situation (cf. Hafer & Olson, 1989; Tyler, Boeckman, Smith, & Huo, 1997). When the outcome and the procedure are both negative, all the information consistently indicates unfairness and perceiving the decision as fair seems difficult, but when either the outcome or the procedure indicates fairness, justifying the decision seems likely.

Thus, we expect that a favorable outcome will reduce participants' perceptions of distributive and procedural unfairness when the procedure is biased, but only when their belief in a just world is relatively strong. Similarly, only among participants who strongly believe in a just world, we expect that an unbiased procedure will decrease perceptions of unfairness when the outcome is unfavorable. When the outcome and the procedure are both positive (i.e. the situation does not form a threat to one's belief in a just world), strong as well as weak believers are expected to report relatively high levels of fairness. When the outcome and the procedure are both negative (i.e. all the information consistently indicates unfairness), strong as well as weak believers are expected to report relatively low levels of fairness. In methodological terms, we expected a three-way interaction of outcome favorability, procedural bias, and the belief in a just world on the perception of distributive justice (*Hypothesis 1a*) and procedural justice (*Hypothesis 1b*).

Because perceptions of injustice are assumed to be accompanied by feelings of anger (e.g. Adams, 1965), a similar prediction is formulated concerning anger. A favorable outcome is expected to prevent individuals from reacting with anger when the procedure is biased and an unbiased procedure is expected to prevent individuals from reacting with anger when the outcome is unfavorable, but only when people strongly believe in a just world. When a favorable outcome is combined with an unbiased procedure, strong as well as weak believers will probably report relatively low levels of anger, whereas they will both report relatively high levels of anger when an unfavorable outcome is combined with a biased procedure (*Hypothesis 2*).

In addition to covert cognitive and affective reactions, it is important to study behavioral reactions because perceptions of injustice and feelings of anger and resentment do not necessarily result in a move against the wrongdoer. Even people who intend to protest eventually may not do so because all kinds of barriers (e.g. fear of penalties from the management) and lack of ability may discourage them from acting on their intentions (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). However, only a few studies have investigated employees' behavioral reactions to managerial decisions that

affected these employees personally (e.g. Greenberg, 1993; Magner, Rahman, & Welker, 1996; Olson-Buchanan, 1996). The present study examined protest reactions (i.e. aggressive voice) to a managerial decision by means of an in-basket task. Aggressive voice consists of attempts to change the situation while taking into account only one's own interests and not those of the other people in the organisation (Hagedoorn, Buunk, & Van de Vliert, 1998; Hagedoorn et al., 1999; Van de Vliert & Euwema, 1994). It might be expected that those who perceive the decision as rather unjust use more aggressive voice than those who perceive the decision as rather just because the ones that are satisfied with the decision have no need to change it. Similarly as perceptions of justice and feelings of anger, aggressive voice may be interactively affected by outcome favorability, procedural bias, and the belief in a just world (*Hypothesis 3*).

METHOD

Subjects and Design

One hundred and twenty-one business students (64 men and 57 women) at Groningen University (The Netherlands) participated in the experiment. Male and female participants were consecutively assigned to one of the conditions of the 2 (Outcome: favorable, unfavorable) by 2 (Procedure: unbiased, biased) factorial design. All experimental conditions contained 14 or 15 female and 16 male participants. The age of the participants ranged from 17 to 27 years ($M = 21.05$, $SD = 2.07$). The participants in the biased procedure conditions were somewhat older ($M = 21.4$, $SD = 1.84$) than the participants in the unbiased procedure conditions ($M = 20.7$, $SD = 2.23$), $F(1,117) = 4.16$, $P < 0.05$, but controlling for age in the analyses described below did not affect the results. All participants had some work experience; they had worked during holidays, had a job on the side, or did a work placement.

Procedure

The participants performed a so-called *in-basket task* in which they had to reply to the mail of an employee of an imaginary organisation. The participants were asked to imagine that they were this employee. Their mailbox was filled with memos and letters sent by people from within and outside the organisation. The simulation closely resembled an actual organisational setting. A study of Smith, Winer, and George (1983) suggests that such a task taps a deeper level of psychological processes and elicits more subject involvement than other experimental methods such as a scenario.

The participants were told that the goal of the study was to learn more about written communication at work. After they had finished the task, they completed a questionnaire that contained the manipulation checks and dependent measures (fairness of the outcome and the procedure, and feelings of anger). Finally, the participants were asked to fill out a questionnaire that supposedly was part of a national inquiry on differences and similarities in opinions and ideas of students from different universities. This questionnaire contained the measurement of the belief in a just world embedded in filler items. At the end, the subjects were thoroughly debriefed and paid 15 Dutch guilders (approximately 7 US dollars) for their participation.

Experimental Task. The participants started by reading information about the organisation they supposedly worked for; the structure of the organisation was explained to them and their organisational tasks were described. Furthermore, the participants were told that they are Wil de Vries (a gender-neutral Dutch name), a senior adviser at a management consultants firm MCG: Management Consultants Group. Several employees of MCG are working on special projects. For six months, Wil has been working on such a project and needs about four months to finish it. Hennie (another gender-neutral Dutch name), a colleague, has been working on a special project for three months and will finish it in about seven months. They both find their project very important, are motivated to finish it, and enjoy working on it. Note that Wil has spent a lot of time on the project, even more than Hennie has. Some additional information about the content of the project was provided. Because the content of the project might have an impact on participants' perceptions and reactions, the projects were counterbalanced. It was either Wil or Hennie who developed a teaching method on management skills and it was either Wil or Hennie who developed a teaching method on how to coach autonomous work groups.

The participants were free to respond in whatever way they wanted to. If they did not want to respond with a memo or a letter to someone inside or outside the organisation, they had to write down what their response would be. To check whether the participants had fully understood the information, they completed a short questionnaire. No limit was placed on the amount of time that the participant could spend on the task because the emphasis was on the nature of their responses and not on the speed at which they responded. On average, participants worked on the task for 57.20 minutes ($SD = 13.59$). The time spent on the task was not affected by the experimental conditions and the time was not related to any of the dependent variables.

The actual task consisted of answering eight pieces of mail (to be referred to as items), such as a request from the supervisor, a memo from a colleague about a problem with video equipment that Wil needs for a training session, and letters from clients.

Manipulations of Outcome and Procedure. One of the items was used to induce the manipulations. Because it was embedded in the other mail, it was not obvious that the investigators' primary interest was in the reaction to that specific stimulus situation. The supervisor, Tony (gender-neutral name) told the employees of Wil's department that MCG's sales figures for last year were unsatisfactory. The sales had increased every year, but now, compared to the previous year, there was a decrease of 30 per cent. Thus, cutbacks had to be made in every department. Therefore, in the *favorable outcome* condition, it was decided to cancel Hennie's project, and in the *unfavorable outcome* condition, it was decided to cancel Wil's project. Based on equity theory (Adams, 1965; Walster et al., 1978), it might be stated that the unfavorable outcome is also inequitable because Wil has spent more time on the project than Hennie has. In the *unbiased procedure* condition, participants were told in detail that the supervisor had discussed several options to economise with MCG's management and the head of the marketing department. On the basis of this consultation, the supervisor decided that the best way was to cut back on the special projects and thus, to stop one project. It was explained that the project for which the profit expectations were most advantageous would be continued. This message was given in a very sensitive and apologetic manner. In the *biased procedure* condition, the supervisor did not consult with the management and the head of the marketing department. The supervisor *felt* that the best way to economise was to stop one project. This message was very insensitive; the decision was based on personal convictions and preference for the employee who was allowed to continue the project.

Measures

Manipulation Checks. The outcome manipulation was checked with two items. Participants were asked to indicate whether the supervisor had decided to cancel or not to cancel Wil's project and whether the supervisor had decided to cancel or not to cancel Hennie's project. To check the induction of procedure, participants were asked to answer the questions: "To what extent did you receive information about the reasons for Tony's decision?", "To what extent has Tony consulted other people within the organisation?", and "To what extent did Tony show empathy to those whose work was influenced by the decision?" These questions had to be answered on a 6-point scale ranging from *not at all* (1) to *to a great extent* (6) (Cronbach's $\alpha = 0.70$, $M = 2.45$, $SD = 0.93$).

Identification with the Target Person. Participants were also asked to what extent they were able to envision themselves as Wil (two items, 1 = *not at all* to 6 = *to a great extent*, $\alpha = 0.88$, $M = 4.23$, $SD = 0.85$).

Belief in a Just World. The global scale of Lipkus (1991), which includes some of the items of Rubin and Peplau's scale (1975), was used to measure the participants' belief in a just world. Lipkus (1991) reported that, unlike Rubin and Peplau's scale, his scale measures a single construct and has a similar factor structure for males and females. Furthermore, the internal consistency of Lipkus's scale was higher. The 7 items are: "I feel that people get what they are entitled to have", "I feel that a person's efforts are noticed and rewarded", "I feel that people earn the rewards and punishments they get", "I feel that people who meet with misfortune have brought it on themselves", "I feel that people get what they deserve", "I feel that rewards and punishments are fairly given", and "I feel that the world is a fair place." These questions had to be answered on a 6-point scale ranging from *strongly disagree* (1) to *strongly agree* (6) ($\alpha = 0.74$, $M = 3.37$, $SD = 0.65$).

Distributive Justice. This perception was measured by two items, namely "In your view, how fair are the cutbacks that Tony has decided upon?" (1 = *very unfair* to 6 = *very fair*) and "I find the cutbacks that Tony has decided upon . . ." (1 = *very unreasonable* to 6 = *very reasonable*; $\alpha = 0.80$, $M = 3.03$, $SD = 1.14$).

Procedural Justice. This perception was measured by three items, namely "In your view, how fair was the way the decision was made?", "In your view, how fair was the way Tony handled the decision-making with respect to the cutbacks?" (1 = *very unfair* to 6 = *very fair*), and "In your view, to what extent was the decision influenced by Tony's personal motives and prejudices" (1 = *not at all* to 6 = *to a great extent*; $\alpha = 0.66$, $M = 2.60$, $SD = 1.07$).

Feelings of Anger. To assess the degree to which the stimulus situation had evoked feelings of anger, participants were given a checklist of 52 adjectives that described possible feelings. Seven of these adjectives concerned feelings of anger, including hostile, angry, dissatisfied, offended, irritated, frustrated, and aggressive. These adjectives were in part a translation of the Multi-Affect Adjective Checklist (Zuckerman, 1960; Zuckerman, Lubin, Vogel, & Valerius, 1964; Ybema, Buunk, & Heesink, 1996). Participants indicated which of the adjectives described the feelings they felt while reading the stimulus information. The number of indicated adjectives concerning anger composed the measure of anger ($\alpha = 0.64$, $M = 1.53$, $SD = 1.57$).

Aggressive Voice. In reaction to the unfavorable outcome, 88 participants wrote a memo. Three trained judges (two males and one female) who were not informed about the hypotheses and unaware of the experimental conditions coded these memos. Each memo received a score for aggressive voice

TABLE 1
Zero-order Correlations between all Dependent Variables

Variables	1	2	3	4
1. Distributive justice	—	0.46***	-0.37***	-0.38***
2. Procedural justice		—	-0.30**	-0.38***
3. Feelings of anger			—	0.45***
4. Aggressive voice				—

Note: $n = 88$; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

from all judges. The scores ranged from *this behavior is not present at all* (1) to *this behavior is very strongly present* (5). During the training, aggressive voice was defined and the elements were explained. These elements were naming, that is, expressing negative feelings such as anger, frustration, and grief, blaming the supervisor or the organisation, and claiming that the decision will be rescinded. The correlations between the judges' scores for aggressive voice were positive and ranged from 0.84 to 0.90. As the agreement between the three judges was high, for every participant an average score was calculated ($M = 2.17$, $SD = 1.17$).

Thirty-three subjects (16 men and 17 women) decided not to write a substantial memo to their supervisor or another person within or outside the organisation. Although some participants intended to discuss the matter during a future meeting or intended to contact the supervisor personally, the degree to which these reactions represented aggressive voice could not be coded. We will explore whether participants who did not send a memo differed from those who did write a codable memo.

The correlations between all the dependent variables are presented in Table 1. When the correlations between distributive justice, procedural justice, and feelings of anger are calculated for the total sample (i.e. including those who wrote an uncodable memo), the findings are approximately the same.

RESULTS

Manipulation Checks

First of all, participants reported being able to envision themselves as the target person rather well ($M = 4.27$, $SD = 0.95$). The degree of identification did not vary across experimental conditions and there were no gender differences. The manipulation checks with regard to the outcome were answered correctly by all participants. In the favorable outcome condition they stated that Hennie's project had been canceled while their project would be continued and in the unfavorable outcome condition they stated that Hennie's

TABLE 2
Means of the Manipulation Checks and all Dependent Variables,
by Outcome and Procedure

Procedure	Favorable outcome		Unfavorable outcome	
	Unbiased	Biased	Unbiased	Biased
Manipulation checks				
Provision of information	2.87 ^{ab} (1.20)	2.43 ^{ab} (0.90)	2.97 ^a (1.22)	2.34 ^b (0.94)
Consulting others	2.70 ^a (1.34)	1.87 ^b (0.78)	3.13 ^a (1.33)	1.83 ^b (0.97)
Showing empathy	2.80 ^a (1.38)	1.70 ^b (0.79)	3.19 ^a (1.05)	1.52 ^b (0.57)
Dependent variables				
Distributive justice	3.77 ^a (1.02)	2.97 ^b (1.14)	3.05 ^b (0.91)	2.35 ^c (1.08)
Procedural justice	3.36 ^a (0.97)	2.29 ^b (0.99)	2.96 ^a (0.93)	1.77 ^c (0.64)
Feelings of anger	0.67 ^a (0.96)	1.00 ^a (1.15)	1.81 ^b (1.49)	2.63 ^c (1.81)
Aggressive voice	1.39 ^a (0.65)	1.69 ^a (1.04)	2.24 ^b (1.15)	2.98 ^c (1.05)

Note: The means and standard deviations (between brackets) with regard to the manipulation checks, distributive and procedural justice, and anger are based on the total sample ($n = 121$). With regard to aggressive voice, $n = 88$. In each row, values not sharing a common subscript differ on a 5% level.

project would be continued while their project had been canceled. An analysis of variance (ANOVA) revealed a significant effect of procedure, $F(1, 116) = 47.15$, $P < 0.001$, on the evaluation of the procedure. The effect size ($\text{Eta}^2 = 0.29$) shows that it concerns a large effect. As expected, the participants in the unbiased procedure condition evaluated the procedure more positively than did the participants in the biased procedure condition ($M = 2.94$, $SD = 0.98$ versus $M = 1.95$, $SD = 0.54$). More specifically, as can be seen in Table 2, they felt that they received more information, $F(1, 115) = 8.26$, $P < 0.01$, $\text{Eta}^2 = 0.07$, that the supervisor had consulted other people within the organisation more, $F(1, 115) = 26.55$, $P < 0.001$, $\text{Eta}^2 = 0.19$, and that the supervisor showed more empathy with those whose work was influenced by the decision, $F(1, 115) = 56.45$, $P < 0.001$, $\text{Eta}^2 = 0.33$. The manipulation of the outcome as well as the interaction between the outcome and the procedure did not have a significant effect on the evaluation of the procedure. Thus, the manipulation of the procedure proved to be successful, although the participants in the unbiased procedure did not rate the procedure as positively as was expected.

Cognitive and Affective Reactions

We predicted that the objective outcome, the objective procedure, and the belief in a just world would interactively affect perceptions of distributive and procedural justice and feelings of anger. We expected that a favorable outcome would reduce participants' negative reactions when the procedure

was biased, but only when their belief in a just world is strong. Similarly, we expected that, for those who strongly believe in a just world, an unbiased procedure would decrease participants' negative reactions when the outcome was unfavorable. Because the belief in a just world is a continuous variable, the predicted interaction effects are best analysed with hierarchical regression analyses. In the first step, the main effects of outcome, procedure (dummy variables), and belief in a just world were entered. In the second step, we entered all possible two-way interaction terms. The three-way interaction was entered in the third step (Aiken & West, 1991; Cohen & Cohen, 1983). To facilitate interpretation of β -weights, these analyses were conducted with centered variables.

Perception of Distributive Justice. With regard to distributive justice, entering the main effects into the regression yielded a significant portion of explained variance, $R^2 = 0.21$, $F(3,117) = 10.58$, $P < 0.001$. The results show significant effects of outcome ($\beta = 0.30$, $P < 0.001$) and procedure ($\beta = 0.28$, $P < 0.001$) and a marginally significant effect of belief in a just world ($\beta = 0.15$, $P < 0.10$). This means that the participants in the setting of a favorable outcome viewed the decision as less unfair than did the participants in the setting of an unfavorable outcome. In addition, those in the situation of an unbiased procedure perceived more distributive justice than those in the situation of a biased procedure. The means of distributive justice within the four experimental conditions are presented in Table 2. Furthermore, strong just world believers found the decision less unfair than did weak just world believers. Entering the two-way interactions into the regression equation did not yield a significant increase in explained variance, $R_{\text{ch}}^2 = 0.01$, $F(3,114) = 0.58$, $P > 0.10$, but the predicted three-way interaction did, $R_{\text{ch}}^2 = 0.04$, $F(1,113) = 6.32$, $P < 0.05$; $\beta = -0.21$, $P < 0.05$. Additional regression analyses were carried out within the experimental conditions to further clarify this three-way interaction. Fig. 1 shows that strong and weak believers did not perceive distributive justice differently when they were in the setting of a favorable outcome combined with an unbiased procedure ($\beta = 0.09$, $P > 0.10$) or in the setting of an unfavorable outcome combined with a biased procedure ($\beta = -0.17$, $P > 0.10$). In contrast, in the situation of a favorable outcome combined with a biased procedure and in the situation of an unfavorable outcome combined with an unbiased procedure, the belief in a just world showed a (marginal) significant relation with distributive justice ($\beta = 0.44$, $P < 0.05$ and $\beta = 0.34$, $P < 0.10$, respectively). As expected, a favorable outcome could prevent strong but not weak just world believers from perceiving the outcome as relatively unfair when the procedure was biased. Similarly, an unbiased procedure could reduce strong but not weak just world believers' perceptions of unfairness when the outcome was unfavorable (Hypothesis 1a).

FIGURE 1. Distributive justice as a function of the outcome, the procedure, and the belief in a just world. Significance of the regression lines is indicated:

⁺ $P < 0.10$, $*$ $P < 0.05$.

Perception of Procedural Justice. Entering the main effects into the regression yielded a significant portion of explained variance, $R^2 = 0.33$, $F(3,117) = 19.08$, $P < 0.001$, due to outcome ($\beta = 0.21$, $P < 0.01$) and procedure ($\beta = 0.52$, $P < 0.001$). The participants in the condition of a favorable outcome (an unbiased procedure) viewed the procedure as less unfair than did the participants in the condition of an unfavorable outcome (a biased procedure). See Table 2 for the means of procedural justice within the four experimental conditions. Entering the two-way interactions into the regression equation did not yield a significant increase in explained variance, $R^2_{ch} = 0.01$, $F(3,114) = 0.69$, $P > 0.10$, and, in contrast to our expectations, neither did

FIGURE 2. Anger as a function of the procedure and the belief in a just world.

the three-way interaction, $R^2_{\text{ch}} = 0.01$, $F(1,113) = 1.76$, $P > 0.10$. Thus, Hypothesis 1b was not supported.

Feelings of Anger. Entering the main effects into the regression yielded a significant portion of explained variance, $R^2 = 0.23$, $F(3,117) = 11.85$, $P < 0.001$. This effect is due to outcome ($\beta = -0.45$, $P < 0.001$) and procedure ($\beta = -0.20$, $P < 0.05$) indicating that the participants in the setting of a favorable outcome (an unbiased procedure) felt less angry than did those in the setting of an unfavorable outcome (a biased procedure) (see Table 2). Entering the two-way interactions into the regression equation yielded a significant increase in explained variance, $R^2_{\text{ch}} = 0.06$, $F(3,114) = 3.01$, $P < 0.05$ that was fully due to the interaction between procedure and the belief in a just world ($\beta = -0.21$, $P < 0.01$). This interaction indicates that the procedure influenced strong believers but not weak believers. In contrast to Hypothesis 2, the three-way interaction did not contribute to feelings of anger, $R^2_{\text{ch}} = 0.00$, $F(1,113) = 0.78$, $P > 0.10$, over and above the two-way interaction. Fig. 2 shows that participants reported more anger when the procedure was biased than when it was unbiased, but only when their belief in a just world was relatively strong.

Aggressive Voice

Eighty-eight participants wrote a substantial memo to their supervisor and 33 did not. The manipulation of the procedure did not affect the decision to send or not to send a memo. However, in the favorable outcome condition, there were more participants who decided not to write a substantial memo than in the unfavorable condition (24 versus nine), Pearson $\text{Chi}^2(3) = 10.72$,

$P < 0.05$. Participants who decided to write a memo or letter perceived the outcome ($M = 2.83$, $SD = 1.11$ versus $M = 3.58$, $SD = 1.06$), $F(1, 119) = 11.08$, $P < 0.001$, and the procedure ($M = 2.37$, $SD = 0.97$ versus $M = 3.21$, $SD = 1.11$), $F(1, 119) = 16.87$, $P < 0.001$, as more unfair than participants who did not write a substantial memo, but the two groups did not differ with regard to the belief in a just world and the perceptions of the manipulations.

The regression with aggressive voice as a dependent variable yielded a significant joint contribution of the main effects, $R^2 = 0.30$, $F(3,84) = 11.97$, $P < 0.001$. The participants used less aggressive voice when the outcome was favorable ($\beta = -0.43$, $P < 0.001$) and the procedure was unbiased ($\beta = -0.21$, $P < 0.05$; for the means in the different experimental conditions see Table 2). There was also a marginal significant main effect of the belief in a just world indicating that the more strongly participants believed in a just world the less they voiced aggressively ($\beta = -0.17$, $P < 0.10$). Neither entering the two-way interactions, $R^2_{\text{ch}} = 0.03$, $F(3,81) = 1.06$, $P > 0.10$, nor the three-way interaction into the regression yielded a significant increase in explained variance, $R^2_{\text{ch}} = 0.00$, $F(1,80) = 0.46$, $P > 0.10$.

DISCUSSION

The present study suggests that people might perceive an authoritative decision as rather just unless an unfavorable outcome is combined with a biased procedure because they feel the need to believe that the world is a just place. In line with prior research (e.g. Lerner, 1996; Lerner & Miller, 1978; Hafer & Olson, 1989), strong just world believers seemed to protect their belief when it was threatened. More precisely, strong just world believers were motivated to perceive the outcome they received as rather just even when it was unfavorable or when the procedure that led to it was biased, whereas weak believers were not motivated to do so. For this justification process to take place, it seems that the situation has to be somewhat ambiguous (cf. Hafer & Olson, 1989; Tyler et al., 1997). "Fairness is in the eye of the beholder" but when both the outcome and the procedure are negative, it seems that the situation is so unambiguously unfair that selective interpretation is difficult.

In contrast to our expectations, outcome favorability and procedural bias only had direct effects on perceptions of procedural fairness among strong as well as weak just world believers. Perhaps, strong believers' need to protect their belief could be sufficiently fulfilled by perceiving the outcome as just. When the procedure was biased but the outcome was favorable, weak just world believers viewed the outcome as well as the procedure as relatively unfair whereas strong believers only viewed the procedure as relatively unfair. Thus, the strong believers might have concluded that although the

procedure was rather unfair, in the end justice prevailed because they felt that the outcome they received was fair.

With regard to feelings of anger, the predicted three-way interaction was not significant. However, the findings showed that the procedure affected the participants' feelings of anger only when they strongly believed in a just world. In contrast, outcome favorability affected both weak and strong believers. Thus, for weak believers, anger seems to be best explained by the motive of self-interest. Although weak believers perceived relatively low distributive justice when the procedure was biased they were not very angry as long as the outcome was favorable and, thus, the injustice was to their advantage.

Furthermore, we did not find the expected interactive effect on aggressive voice but participants did voice more aggressively when the outcome was unfavorable and the procedure was biased, and when they believed less strongly in a just world. Overall the degree of aggressive voice was rather low which might indicate that participants perceived barriers such as fear for penalties and social norms that prevented them from acting against their wrongdoer.

For several reasons, we developed an experimental in-basket task to test our hypotheses. First, we wanted to obtain measures of voluntary behavior that is usually difficult to accomplish in a field setting. Second, in the workplace, it is more difficult to manipulate the outcome and the procedure with respect to a decision of an authority. The in-basket method is very realistic and absorbing (cf. Smith et al., 1983); participants get a great deal of information about the organisation and its employees and they have a very active role. Hence, it came as no surprise that participants could envision themselves as the target person. In a natural work setting, managerial decisions are not isolated events. Therefore, we did not focus the attention of the participants on one managerial decision but embedded the stimulus situation in several organisational events. Furthermore, the in-basket method focuses participants on the continuity of relationships between people which is an important element of an organisational setting (Alexander & Ruderman, 1987). However, the use of an experimental method has consequences for the external validity of the findings. Even though it is very life-like, it is still a simulation. The decision does not really affect the participant personally outside the immediate situation. In real organisations, it might be that people confronted with decisions react differently because such outcomes have severe personal consequences. Therefore, it seems interesting to examine whether the belief in a just world, outcome favorability, and procedural bias interactively affect employees' perceptions and behavior in a field setting.

Although previous research did not address interactive effects of the belief in a just world and features of the outcome and the procedure, several studies did support the notion that the belief in a just world is important

with respect to organisational justice and behavior. For example, Ball, Klebe Trevino, and Sims (1994) demonstrated a positive relationship between disciplined employees' perceptions of distributive and procedural justice and these employees' beliefs in a just world. In another paper, Ball, Klebe Trevino, and Sims (1993) reported that disciplined employees were more satisfied with the supervisor, were less inclined to leave, and were more committed to the organisation the more they believed in a just world. Interestingly, over a longer period of time these positive effects may be reversed. For example, Lerner and Somers (1992) found that at the time employees were informed about the closure of their plant, their effort to find another job was greater the more they believed in a just world. However, just prior to the actual closure of the plant, the stronger the belief in a just world the smaller their efforts, especially among those employees who had difficulties finding a new job. Lerner (1996) suggested that the belief in the justness of their world may comfort employees in threatening situations but as a consequence they may be unwilling to engage in costly efforts to cope with the situation. Furthermore, despite people's motivation to protect their belief in a just world, this belief may decrease when they are frequently confronted with injustice (Lerner, 1980). Thus, the belief in a just world may only stimulate optimistic reactions as long as people are not confronted with unfairness too often.

Besides limitations regarding external validity, there are some other limitations that have to be mentioned. Concerning feelings of anger as well as perceptions of procedural justice, it has to be noted that the rather low reliability of our scales may partly explain why we did not find the predicted three-way interactions. Furthermore, the present study was conducted to examine explanatory conditions under which the frequently observed interactive effect of outcome favorability or fairness and procedural desirability or fairness was present. We did not replicate this well-known interaction for the total sample but only observed it among strong just world believers with respect to their perception of distributive justice.

This experiment was one of the first to examine a theoretical explanation for previous findings indicating that a favorable outcome can prevent negative reactions to a biased procedure and that an unbiased procedure can prevent negative reactions to an unfavorable outcome (for a review, see Brockner & Wiesenfeld, 1996). Although not all hypotheses were supported and more research is needed to resolve this issue, the need to protect one's belief in a just world seems to play a role in this effect.

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