Being angry for different reasons: the role of personality in distributive justice

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Abstract

The present research examines personality predictors of anger in response to unfavorable and favorable outcomes with regard to violations of the distributive justice principle of equality. Two studies showed that feelings of anger in response to equality violations were related to neuroticism and agreeableness, albeit for different reasons. Depending on whether the equality violation was favorable or not, anger could be predicted by either feelings of threat or guilt for neuroticism and perceptions of responsibility for agreeableness. These findings add to the literature on boundary conditions of justice and reveal how core personality dimensions contribute to emotional reactions in distributively unjust situations, even if the outcome is personally favorable.

A most commonly described aspect of justice is distributive justice, which is the perceived fairness of decision outcomes (Deutsch, 1985). In contrast to other aspects of justice, such as the fairness with regard to the procedures that have led to certain outcomes (i.e., procedural justice), or the interpersonal treatment of individuals (i.e., interpersonal or interactional justice), distributive justice is mainly focused on the instrumental outcome. For example, in organizations, executives' wages are usually far greater than lower management and entry-level employees are paid less than lower management. Because the individuals' amount of effort and contributions on the work floor are hard to estimate, inequitable pay may often be perceived as unfair, which may lead to negative affect, and more importantly, feelings of anger and hostility (Aquino, Lewis, & Bradfield, 1999). Yet, people also may be advantaged in their pay and receive more favorable outcomes than their coworkers. The present research addresses whether such inequity still leads to emotions of anger. Until today, little research addressed how people would react emotionally if inequality resulted in favorable consequences for oneself but unfavorable consequences for the other.

Additionally, even though research highlighted the importance of individual differences in procedural justice (e.g., Brockner, Ackerman, & Fairchild, 2001; Van Hiel, De Cremer, & Stouten, 2008), to date, little is known on the relationship between broad personality traits—like those comprised in the five-factor model (FFM) of personality (Costa & McCrae, 1992)—and distributive justice, and more specifi-

cally equality. Here, we examine five core personality dimensions of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness in angry responding to situations that are unfair with respect to the distributive justice rule of equality (Adams, 1965). We aim to uncover which core personality characteristics affect anger reactions to situations that violate equality, and investigate the processes that mediate these relationships.

Distributive justice and emotions

People compare themselves to others in the proportion between what they received and what they invested or contributed. When there is a discrepancy between what one gets relative to one's investments and what someone else is getting relative to his or her investments (i.e., inequity), people may feel deprived and perceive to be treated unjustly (Adams, 1965). One of the most central distributive justice principles is the equality rule (Biel, Eek, & Gaerling, 1996; Van Dijk & Wilke, 2000). The equality rule is often perceived as a normative and fairness rule (Bazerman, White, & Loewenstein, 1995). Research recently showed that if the equality rule is violated, this may evoke strong emotional reactions (Stouten, De Cremer, & Van Dijk, 2005, 2006). Drawing on appraisal theories of emotion, the most dominant account of emotion elicitation and differentiation, unfairness is seen as one of the defining appraisals that elicit anger and differentiate it from other emotions (e.g., Kuppens, Van Mechelen, Smits & De

Boeck, 2003). In general, emotions can be described as psychological responses or states that emerge in response to a particular evaluation or appraisal of persons or events (e.g., Frijda, 1986). The emotion of anger is thought to be associated with the appraisal of an unpleasant event for which another person is responsible (Smith & Ellsworth, 1985). Moreover, it has been suggested that emotions are closely related to issues of morality and fairness (Averill, 1983; Leventhal, Karuza, & Fry, 1980) as people evaluate certain conditions according to their personal goals and values and that from these evaluations emotional reactions may arise. In the present context, injustice has been defined as a specific appraisal for experiencing anger (Kuppens et al., 2003; Miller, 2001). Situations perceived as unjust are very likely to elicit anger from the person who was treated unfairly (Aquino et al., 1999; Mikula, Scherer, & Athenstaedt, 1998; Weiss, Suckow, & Cropanzano, 1999). The question is, however, whether all people react equally angry in situations in which equality is violated?

Individual differences in angry responding to injustice

Although unfairness appraisals have been shown to elicit emotions of anger, appraisals are not invariantly linked to emotional experience. Both situational and dispositional factors influence whether or not the experience of a certain appraisal is also associated with the experience of the associated emotion (e.g., Kuppens, Van Mechelen, Smits, De Boeck, & Ceulemans, 2007). Therefore, we hypothesize that people may react differently to equality violations depending on their personality characteristics (Brockner et al., 2001; Mitchell, Tetlock, Mellers, & Ordóñez, 1993). Few studies have addressed this moderating role of personality and distributive fairness. Colquitt, Scott, Judge, and Shaw (2006), e.g., could not demonstrate a moderating effect of the FFM and distributive, procedural, and interpersonal justice, as well as Scott and Colquitt (2007) regarding only procedural justice. However, in a field study, Skarlicki, Folger, and Tesluk (1999) revealed that negative affectivity—as an exemplar of neuroticism—as well as agreeableness moderated the effects of distributive, procedural, and interactional fairness on retaliatory behavior in an organizational context. More specifically, people scoring high rather than low on negative affectivity were more severely affected by fairness. Those low in agreeableness were also more influenced by fairness than the more agreeable individuals.

In multiple studies, Van Hiel et al. (2008) showed that procedural justice was only moderated by neuroticism with regard to people's cooperation levels. Those scoring high on neuroticism were more sensitive to fairness variations and they could explain this by focusing on more surface-level uncertainty or relational processes. They argued that "the

observed neuroticism effects provide us with information concerning the possible general psychological processes that are playing when procedural justice affects cooperation" (pp. 534–535).

In sum, although these previous studies focused on moderator effects of personality, their results seemed to be inconsistent with respect to the impact of core personality. That is, the studies by Colquitt et al. (2006) were not particularly successful in providing evidence for the impact of the FFM personality dimensions, whereas the study by Skarlicki et al. (1999) and Van Hiel et al. (2008) did provide some supportive evidence for the role of neuroticism and agreeableness.

In the present research, we draw on the self-based model of cooperation (De Cremer & Tyler, 2005) which is based upon uncertainty management theory (Van den Bos & Lind, 2002) and the relational model of authority (Tyler & Lind, 1992). It states that people attend to procedural justice in order to reduce uncertainty about the self, as well as to assess their relationship with the group and its authority. Here, we aim to investigate whether processes associated with procedural fairness might also apply to distributive fairness. Given that previous research has hardly examined core personality variables as boundary conditions, we focus on core personality variables to address its relations with distributive fairness.

We also draw on affective events theory (Weiss & Cropanzano, 1996), which states that certain events in the work environment trigger positive or negative emotional reactions. At the base of people's reactions to fairness are emotions, which then drive subsequent behavior (e.g., Stouten et al., 2006). Hence, people's emotional reactions are an integral part of the emergence of behavioral action. We focus on emotions in the present research, and more specifically anger. Because emotions, and specifically anger, are part of the fundamental reactions to unfairness, we argue that previous inconsistent findings with regard to FFM and unfairness may be due to the focus on behavior rather than more fundamental reactions to unfairness. Emotions are often described as a "gut" feeling, which illustrates its fundamental nature. It has indeed been shown that people's initial reaction to unfairness is the emotion of anger (e.g., Kuppens et al., 2007; Stouten et al., 2006). Yet, people's emotional reactions to these events depend on people's individual characteristics. Research indeed showed that people's reactions to fairness judgments are a complex interaction between the description of the situation and individual differences (see e.g., Schmitt & Sabbagh, 2004).

In sum, the present research aims to identify which dimensions of the FFM of personality (e.g., Costa & McCrae, 1992) are important to predict anger in distributively unfair situations. Building on previous findings (e.g., Martin, Watson, & Wan, 2000; Meier, Robinson, & Wilkowski, 2006; Skarlicki et al., 1999; Van Hiel et al., 2008), we hypothesize that the

personality dimensions of neuroticism and agreeableness play a crucial role in determining angry reactions to distributive injustice. Regarding neuroticism, people high on this trait tend to be high on negative affect in contrast with those low on neuroticism (Bono, Boles, Judge, & Lauver, 2002). In addition, they experience high levels of anger and hostility (Costa & McCrae, 1992). Neurotics have been shown to react strongly to stress situations and to create more stress in their daily lives through unsuccessful coping strategies (Van Hiel & Mervielde, 2004; Watson & Hubbard, 1996). Hence, situations of unfairness indeed are such stressful situations in which neurotics may be highly reactive as they create uncertainty about their own self-image (Van Hiel et al., 2008).

Regarding agreeableness, research on interpersonal conflict has shown that this personality dimension is especially important in conflict situations because agreeableness is primarily associated with keeping relationships harmonious and having a preference for the use of compromises in dealing with conflicts (e.g., Graziano, Jensen-Campbell, & Hair, 1996). That is, people who are more agreeable are highly cooperative, sociable (Skarlicki et al., 1999), and are more likely to regulate their angry feelings (Jensen-Campbell, Gleason, Adams, & Malcolm, 2003). Hence, agreeable individuals are specifically known to be prosocial and having a preference to avoid conflicts (such as situations of unfairness), whereas people low on agreeableness tend to react with aggression in conflict situations and are more likely to encounter conflict. In fact, highly agreeable people have been shown to perceive others more positively in conflict situations (Graziano et al., 1996).

In addition, justice research has hardly addressed how people perceive others to be treated unfairly at one's own benefit. Would people react in anger if they know that they receive a larger than equal share at the expense of the other? As both favorable and unfavorable distributive unfairness elicits possible uncertainty with regard to one's self-image or to the social relations one wishes to maintain, we argue that both neuroticism and agreeableness will be important in both instances of distributive unfairness. Therefore, we also hypothesize that the processes that relate these personality dimensions to anger may differ according to the type of injustice that instigates the angry feelings. In this respect, it is important to distinguish between two fundamentally different outcomes of equality violations: The outcome can be either disadvantageous or advantageous for the individual. Given the fundamental difference in outcomes resulting from the two types of injustice, we expect that different mechanisms will underlie the relationships between neuroticism and agreeableness and anger in these situations.

In other words, we expect that the effect of the personality dimensions on anger will be mediated by different processes depending on whether the distributive injustice is harmful or beneficial to the protagonist. In a first study, we will examine

how personality influences angry reactions in response to inequality of which the outcome is disadvantageous to the individual (which is the most prototypical type of unfairness that is considered to elicit anger). In a second study, we will examine how personality may relate to responses of anger in reaction to inequality, yet yields benefits for the individual. At the start of each study, we will elaborate how the personality dimensions may differentially lead to anger and provide more details about possible mediating processes involved.

Study 1

In a first experiment, we examined the role of the Big Five personality factors in a situation in which equality was violated and was disadvantageous with respect to feelings of anger. Participants were told that they were recruited to perform a task together with a coworker. The task was a public good dilemma situation (Komorita & Parks, 1994) in which participants could contribute to a mutual project. If sufficient investments would be made, the project could be provided. Participants were told that the project could be provided (because the coworker contributed sufficiently), but that the return for the project would not be divided equally. In fact, the coworker would be paid more from the project than the participant.

First of all, in accordance with the self-based model of cooperation and affective events theory, we expect that neuroticism predisposes people to experience anger in response to violations of equality (Hypothesis 1) given their reactivity against stressful situations and overall negative affectivity. Second, we expect that agreeableness will be negatively related to anger in response to violations of equality (Hypothesis 2) given their ability to deal with conflicts and regulate emotions.

In order to shed more light on the motives for participants' anger, we also tested hypotheses about variables that may mediate the relationship between personality and angry responding. First, we expect that the effect of neuroticism on anger reactions in disadvantageous inequality situations would be mediated by perceptions of threat (Hypothesis 3). People high in neuroticism are considered to be especially sensitive to perceiving their circumstances as threatening (e.g., Schneider, 2004). Moreover, neuroticism is seen as closely related to activity of the behavioral inhibition system (e.g., Gray, 1987), which is characterized by a heightened sensitivity for threatening stimuli or cues of punishment. As such, people who are high on neuroticism may feel more threatened in a situation in which they are treated unfair. This perception of threat to the self, in turn, can lead to higher levels of anger. Indeed, activity of the behavioral inhibition system has been related to the experience of anger (e.g., Harmon-Jones, 2003; Smits & Kuppens, 2005). Second, given the relevance of the dimension of agreeableness for keeping interpersonal

relationships friendly and enjoyable, we expected that the effect of agreeableness on anger reactions would be mediated by perceptions of fairness (Hypothesis 4). Following the conflict-avoidant style of agreeable individuals, we assumed that high agreeableness individuals tend to cope better with the unfair situation and therefore perceive less unfairness because this enables them to more easily maintain harmonious relationships. Indeed, in a study by Gerbing and Tuley (1991), it was found that dispositional agreeableness was positively related to tolerance to unfairness. As a result, agreeable individuals may become less angry in situations in which equality is violated because they tend to perceive the situation as less unfair as compared to low agreeable individuals.

Method

Participants and design

Participants were 263 undergraduate students and they were paid 7 euros for their participation. They were randomly assigned to a two-way factorial design (injustice: equal distribution vs. unequal distribution).

Procedure

Upon entering the laboratory, participants were seated in separate cubicles containing a chair, a table, and a computer. All instructions were presented on the computer screen.

Introduction of the public good dilemma

Participants were told that they and another person were hired to start a project to help a first-year student in a mentoring program. Each person would receive a personal endowment of 500 euros, which they could decide to invest in the program. If both would together invest 600 euro (the threshold) or more into the project (i.e., the public good), the university would pay an additional 1,200 euros to cover their expenses. When the threshold could not be reached, all individual investments would be lost. Hence, on a personal level, it would be more advantageous not to contribute much and still benefit from the reward of 1,200 euros. However, this decision would also increase chances that the threshold would not be provided and the financial reward could not be paid. After explaining the task, the participants could decide on how much of their personal endowment they would like to invest in the public good.

Next, participants learned about their coworker's contribution. First, it was said that the group succeeded in providing a sufficient investment in order to reach the threshold. Then, the participants learned that their coworker contributed 300 euros (i.e., an equal share). In the *unequal distribution* condition, participants were told that they would receive one third of the financial reward of 1,200 euros and their

coworker would receive two thirds. That is, participants learned that they received 400 euros and their coworker received 800 euros. In the *equal distribution* condition, participants were told that the financial reward would be equally divided, i.e., both workers would receive 600 euros.

Dependent measures

All questions were assessed on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much so*). First of all, participants were asked to what extent they thought the situation was fair. Then, anger was measured using the emotion labels: angry, hurt, irritated, aggravated, frustrated, hostile, and furious (Cronbach's $\alpha = .98$). Further, participants were asked to what extent they felt threatened in their self-esteem, and to what extent they felt threatened by the other person. These two items were combined to form one threat scale ($r = .72$, $p < .001$). Finally, it was assessed to what extent participants felt treated justly to measure just treatment and fairness.

NEO-PI-R personality questionnaire

Then, the Dutch version of the NEO-PI-R personality questionnaire was assessed (Hoekstra, Ormel, & de Fruyt, 1996). The NEO-PI-R was originally developed by Costa and McCrae (1992). The questionnaire consists of 240 items, with 48 items measuring each of the Big Five personality dimensions: extraversion ($M = 3.39$; $SD = .43$), neuroticism ($M = 3.13$; $SD = .44$), openness ($M = 3.51$; $SD = .34$), agreeableness ($M = 3.49$; $SD = .36$), and conscientiousness ($M = 3.04$; $SD = .40$). Respondents are asked to indicate the degree to which they agree or disagree with each of the statements using a 5-point Likert scale (ranging from 1 = *strongly disagree* to 5 = *strongly agree*). Afterwards, participants were debriefed, thanked, and paid.

Results

Manipulation checks

A t -test on equality on the extent that participants perceived the situation as fair revealed an effect for equality, $t(261) = 58.09$, $p < .001$. This showed that participants perceived getting an unequal distribution as less fair ($M = 1.43$, $SD = 0.73$) than receiving an equal distribution of the financial reward ($M = 6.78$, $SD = 0.75$). Also, a t -test of equality on anger revealed a significant effect, $t(261) = -34.82$, $p < .001$, showing that participants were more angry if they received an unequal ($M = 5.18$, $SD = 1.08$) relative to an equal distribution ($M = 1.27$, $SD = 0.73$).

Anger

To test the hypotheses, a hierarchical regression analysis was conducted in which anger was predicted by centered main

Table 1 Results of Regression Analysis of Type of Distribution on Anger (Experiment 1)

	Unequal distribution		Equal distribution	
	β	R^2	β	R^2
		.11		.03
Neuroticism	.26*		-.04	
Extraversion	.12		-.15	
Openness	-.02		.09	
Agreeableness	-.22*		-.09	
Conscientiousness	.14		-.03	

Note. Total unequal distribution, $F(5, 112) = 2.87, p < .05$.

* $p < .05$.

effect terms of injustice and the Big Five factors at Step 1 and the interaction terms at Step 2. Results revealed interaction effects between the injustice manipulation and neuroticism, $\beta = .22, p < .05$, as well as agreeableness, $\beta = -.19, p < .10$, proved to be (marginally) significant. Further, planned comparisons were performed on anger to test our predictions. A regression analysis of the Big Five personality dimensions on anger in the unequal distribution condition showed an effect for neuroticism and agreeableness, whereas no effects were obtained in the equal distribution condition (Table 1). This confirmed Hypotheses 1 and 2.

To check whether feelings of threat mediated the effect of neuroticism on anger in the unequal distribution conditions, a series of regression analyses were performed (see Baron & Kenny, 1986). To test for mediation, four steps need to be taken. First, the effect of the independent variables on the dependent variable has to be tested. Second, the effect of the independent variables on the proposed mediator has to be tested. Third, the mediating variable has to significantly influence the dependent variable anger, and the effect of the independent variables has to be reduced when the mediating variable is added.

To test whether the effect of neuroticism was mediated by feelings of threat, a series of regression analyses were performed. First, regressing anger onto the Big Five personality dimensions showed a significant effect as illustrated above. Next, regressing the mediator feelings of threat onto the Big Five personality dimensions showed a significant effect for neuroticism, $\beta = .45, p < .001$. Further, regressing anger onto the Big Five personality dimensions and the mediator showed a significant effect for the mediator, $\beta = .36, p < .05$, as well as for agreeableness, $\beta = -.19, p < .05$, whereas neuroticism turned nonsignificant, $\beta = .10, p > .05$. A Sobel test (Sobel, 1982) showed that the reduction in significance of neuroticism was significant, $z = 2.88, p < .005$. Hence, the effect of neuroticism indeed was fully mediated by feeling threatened (Hypothesis 3).

Similarly, regressing the proposed mediator feelings of justice onto the Big Five personality dimensions showed

a marginally significant effect for agreeableness, $\beta = .13, p = .10$, but also an unexpected effect for neuroticism, $\beta = .25, p < .05$. Further, regressing anger onto the Big Five personality dimensions and justice showed that feelings of justice was significant, $\beta = -.31, p < .05$, whereas agreeableness (but not neuroticism, $\beta = .34, p < .05$) became nonsignificant, $\beta = -.18, p > .05$. This suggests that the effect of agreeableness was mediated by feelings of justice, yet a Sobel test showed that this reduction was not significant, $z = 1.28, p = .20$. These results show that the effect of agreeableness was not fully mediated by feelings of justice, thereby not supporting Hypotheses 4.

Discussion

The results of this first experiment demonstrated that people who are high in neuroticism or low on agreeableness reacted strongly with anger to equality violations in which they are treated disadvantageously. In addition, it was shown that the effect of neuroticism was mediated by perceptions of threat, indicating that people high in neuroticism at least in part react on unfairness because they feel threatened by their treatment. Finally, the effect of agreeableness could not be shown to be mediated by perceptions of fairness.

Study 2

In Experiment 1, we examined what determines people's angry reactions to unfair treatment that resulted in disadvantages for the individual. Yet, personal advantages at the expense of others also imply unfairness. Would angry reactions also occur in response to such circumstances? Given central appraisal theory assumptions, such a situation does not involve personal disadvantage, and should thus not elicit negative emotions, such as anger (e.g., Smith & Ellsworth, 1985). Yet, research has shown, for instance, that when people are treated favorably at the expense of another, they are more disturbed in terms of outcome satisfaction than when they were treated equally (Van den Bos, Peters, Bobocel, & Ybema, 2006). However, little is known with regard to favorable equality violations and people's emotional reactions of anger. We argue that given the importance of unfairness for the emergence of anger in accordance to appraisal theory (Kuppens et al., 2007), this would also involve unfavorable unfairness. Therefore, with this second study, we will examine whether people may react in anger in response to an injustice that benefits them. In particular, in this study, participants were told that they were paid more from the public good than the coworker after they decided on their investment in the project.

More specifically, we will examine how the personality dimensions of neuroticism and agreeableness may be related to anger in these circumstances. Similar to Experiment 1, we expected that mainly neuroticism (Hypothesis 1) and agreeableness (Hypothesis 2) would be important predictors

of anger reactions in a situation in which equality is violated favorably. Yet, the mechanisms by which these personality variables are related to angry responding are expected to be of a different nature, given that in the current context, inequality implies advantages at the cost of others. We expect that feelings of guilt mediate the relationship between neuroticism and angry responding (Hypothesis 3). Neuroticism predisposes individuals to experience various negative emotions, among which guilt (e.g., John, 1990). When one is benefited at the cost of others, it is likely that feelings of guilt occur, especially in high neurotic individuals. These feelings of guilt, in turn, can be assumed to lead to feelings of anger toward oneself (Ellsworth & Tong, 2006). For instance, Tangney, Miller, Flicker, and Barlow (1996) found that when people described experiences of shame or guilt, they also reported feeling angry at themselves.

In turn, because agreeableness is linked to sociability and consideration for interpersonal relationships. Individuals high in agreeableness would wish to maintain the social equilibrium. Indeed, people low in agreeableness are more sensitive to blame and responsibility, which would make them more likely to experience anger (Meier & Robinson, 2004). Hence, we hypothesized that agreeable individuals would value to keep the social situation friendly and harmonious and therefore would be more successful in dealing with the unfair situation by discarding responsibility, resulting in lower anger, whereas low agreeable individuals would be more sensitive to issues of responsibility, and hence may display higher levels of anger in response to the inequality (Hypothesis 4).

Method

Participants and design

Participants were 130 undergraduate students and they were paid 7 euros for their participation.

Procedure

Participants were seated in separate cubicles and were informed that they were part of a two-person group, which would work on several projects, and that they (supposedly) would be able to interact with their coworker via their computer. In reality, the computers were not connected with each other. Group members were referred as group member 1 and 2 (in reality, all participants learned that they were number 1.

Introduction of the public good dilemma

Then, the public good dilemma was introduced. Participants learned that they possessed a personal endowment of five chips (each chip = 0.05 euros), which they, if they wished to, could invest in the project. If the group managed to reach a

given threshold of six chips, then the project could be accomplished and the group would receive a bonus of 12 chips, which would be divided among the two workers. Hence, when the threshold of six chips would be reached, the group would earn a bonus of 12 chips.

Then, participants could decide which amount they wished to invest in the project. After their decision, participants learned about their coworker's investment. First, it was said that the group succeeded in providing a sufficient investment in order to reach the threshold. Further, participants learned that their coworker invested three chips to the public good (i.e., an equal share). Further, participants learned that they were paid two thirds of the bonus, and the other group member one third. That is, they received eight chips and the other group member received four chips.

Dependent measures

All questions were assessed on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much so*). First of all, to see whether our injustice manipulation was successful, participants were asked to what extent they thought they were treated justly, and the extent that they found the outcome favorable. After a few moments, participants were asked how they felt in this situation using the following emotions: angry, irritated, frustrated, furious, aggravated, and hostile. These items were combined to form one anger scale (Cronbach's $\alpha = .85$). Furthermore, it was asked to what extent participants felt guilty and to what extent they felt responsible in the situation.

TIPI

A Dutch version of the Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) was used to assess the Big Five dimensions extraversion ($M = 4.93$; $SD = 1.38$), neuroticism ($M = 3.40$; $SD = 1.39$), openness ($M = 4.30$; $SD = 1.96$), agreeableness ($M = 5.52$; $SD = .83$), and conscientiousness ($M = 4.95$; $SD = 1.24$). Each dimension is assessed by means of two items, which have to be rated on a 7-point scale (ranging from "*disagree strongly*" to "*agree strongly*"). Despite its short length, the TIPI demonstrates remarkable good reliability and validity. To illustrate, this Dutch version was pretested in a pilot study ($n = 298$), and the TIPI scales of neuroticism and agreeableness correlated (.64 and .49, $ps < .001$) with their NEO-PI-R counterparts.

Results

Perception of justice

To check how participants perceived the situation in terms of justice, a *t*-test was performed on the extent that participants thought the situation was just and the extent that they found their outcome favorable. Results of a one-sample *t*-test

Table 2 Results of Regression Analysis of Unequal Favorable Distribution on Anger (Experiment 2)

	β	R^2
		.10
Neuroticism	.20*	
Extraversion	-.05	
Openness	.02	
Agreeableness	-.19*	
Conscientiousness	.04	

Note. Total, $F(5, 124) = 2.64, p < .05$.

* $p < .05$.

against the midpoint of the scale showed that participants found the situation slightly unjust ($M = 3.56, SD = 1.77$), $t(129) = -2.82, p < .01$, but considered the outcome favorable ($M = 4.50, SD = 1.65$), $t(129) = 3.46, p = .001$.

Anger

A regression analysis of the Big Five personality dimensions on anger showed effects for both neuroticism and agreeableness (Table 2). This confirmed both Hypotheses 1 and 2.

To test whether the effect of neuroticism was mediated by feelings of guilt, a series of regression analyses were performed. First, regressing anger onto the Big Five personality dimensions showed a significant effect as illustrated above. Next, regressing the mediator guilt onto the Big Five personality dimensions showed a significant effect for neuroticism, $\beta = .23, p < .05$. Further, regressing anger onto the Big Five personality dimensions and the mediator showed a significant effect for the mediator, $\beta = .50, p < .001$, and the effect of neuroticism disappeared, $\beta = .09, p > .05$, whereas agreeableness remained significant, $\beta = -.17, p < .05$. A Sobel test (Sobel, 1982) showed that the indirect effect was significant, $z = 2.32, p < .05$, thereby confirming that the effect of neuroticism was driven by feelings of guilt (Hypothesis 3).

Similarly, regressing the mediator responsibility onto the Big Five personality dimensions showed a significant effect for agreeableness, $\beta = -.23, p < .05$. Further, regressing anger onto the Big Five personality dimensions and the mediator showed a significant effect for the mediator, $\beta = .26, p < .005$, and that agreeableness turned nonsignificant, $\beta = -.13, p > .05$, whereas neuroticism only was marginally significant, $\beta = .16, p < .08$. A Sobel test (Sobel, 1982) showed that the indirect effect was significant, $z = 1.97, p < .05$, thereby supporting the hypothesis that the effect of agreeableness was mediated by feelings of responsibility (Hypothesis 4).

Discussion

The results of Experiment 2 showed that in a situation in which equality was violated but participants were favorably treated at the expense of their coworker, some people can also

respond with feelings of anger. Especially, individuals that score high on neuroticism and low on agreeableness experienced higher anger levels in response to such favorable unfairness. In addition, results showed that the effect on neuroticism was driven by feelings of guilt, whereas the effect on agreeableness was mediated by feelings of responsibility.

General discussion

To date, little is known about the relationship between broadband personality traits and distributive fairness, and more specifically equality. We examined how the FFM of personality predicts people's anger reactions with regard to equality violations (Brockner et al., 2001; Mitchell et al., 1993). The present research builds upon findings that distributive unfairness, and more specifically inequality, is an important determinant for people's anger reactions (Stouten et al., 2005, 2006), and examined how personality influences the relationship between unfairness and anger. In addition, we examined whether both favorable and unfavorable inequality would lead to emotions of anger and to what extent personality plays a role in this. That is, do people react in anger if they benefit from unequal treatment?

In two experimental studies, it was demonstrated that violations of an important distributive justice principle, equality (i.e., equality in rewards), results in anger as a function of people's personality characteristics. As expected, results showed that mainly neuroticism and agreeableness were associated with differences in anger responses to such unfair situations. Moreover, it was shown that not only inequality that was disadvantageous for the individual but also inequality that was advantageous for the individual can elicit emotions of anger as a function of these personality characteristics, showing that violations of equality can result in feelings of anger even when it benefits the individual. However, the motive for eliciting anger turned to be dependent on personality and on whether the situation was favorable or not.

In Experiment 1, both neuroticism and agreeableness were found to be related to anger in response to disadvantageous unfairness. However, the factors that drove the anger were different for both traits. That is, the effect on neuroticism was mediated by the perception of feeling threatened. Hence, people high on neuroticism reacted angry when unfairly treated because they felt threatened in the situation. In contrast, the effect of agreeableness was not mediated by feelings of threat but also could not be supported with regard to the mediation of feelings of justice.

Experiment 2 examined the role of personality characteristics in a situation in which equality was also violated, but this time, it was advantageous for individual participants. Would inequality at the benefit of oneself result in anger as well? Results were consistent with Experiment 1 in that the experience of anger was positively related to neuroticism and

negatively to agreeableness. Yet, in this context, feelings of guilt mediated the relation between neuroticism and anger, whereas considerations of responsibility mediated the relationship between agreeableness and anger. Thus, in such a situation, neurotic individuals seem to feel guilty for taking more than one's share, and this is associated with feelings of anger (possible directed toward oneself). In turn, high agreeable individuals are less sensitive to responsibility for the unfairness than low agreeable individuals, causing them to experience lower levels of anger.

Core personality and distributive justice

Previous research with regard to the role of broadband personality and justice found inconsistent results for the moderating influence of core personality. Mainly, Skarlicki et al. (1999) were successful in finding relations of the FFM with procedural, distributive, and interactional justice effects, along with Van Hiel et al. (2008) who mainly focused on procedural justice effects. Our results add to this research by showing that neuroticism and agreeableness are associated with reactions to distributive injustice. The present research also adds to this literature by showing that the FFM impacts not only procedural but also distributive justice and more specifically, the rule of equality, even if equality would entail favorable outcomes for oneself. Drawing on the self-based model of cooperation (De Cremer & Tyler, 2005), we argued that neuroticism and agreeableness would be boundary conditions for people's reactions to unfairness. This model proposed that people are concerned with procedural unfairness in order to reduce uncertainty with regard to the self as well as to assess their relationship with the group. We add to the self-based model of cooperation by showing that individuals also are more motivated to focus on distributive unfairness in order to reduce feelings of uncertainty to the self or the status one wishes to maintain in the social environment. People high on neuroticism can be described as easily experiencing negative emotions such as anger and hostility (Hoekstra et al., 1996). In fact, neuroticism has been shown to be related to negative affect (including anger and guilt), whereas especially, low agreeableness is related to anger (Watson & Clark, 1992), which is consistent with our results. Agreeableness is also associated with feelings of friendliness, normative behavior, sensitive to rules and norms, whereas less agreeable people are perceived as emotional, temperamental, and quarrelsome (Skarlicki et al., 1999). It has also been argued that people high on agreeableness may be more motivated to reexamine the quality of the relationship and therefore are more able to regulate their anger, rather than people low on agreeableness (Meier & Robinson, 2004).

In sum, inequality led to differential reactions in anger dependent on individual differences. Moreover, the factors to react angry were also different for neuroticism and

agreeableness, as well as for the type of inequality that elicited the anger (i.e., advantageous or disadvantageous). The findings suggested that neuroticism contributes to anger through processes related to negative emotionality: When treated unfair, anxiety-related appraisals of threat mediated its relationship with anger. Hence, this represents the threat to the self that induces reactions to unfairness. When favored, feelings of guilt can contribute to anger in neurotic individuals. In turn, agreeableness was related to anger through considerations involved in interpersonal relationships, such as sensitivity to responsibility, consistent with the relevance of agreeableness for maintaining positive social relationships and sensitivity for social cues. Hence, depending on people's personality, people may react in anger in distributively unfair situations, but because of different reasons. In sum, the core personality variables of neuroticism and agreeableness could be shown to represent underlying mechanisms of concern for the self and the social environment, which triggers their sensitivity to fairness issues (see, e.g., Van Hiel et al., 2008). It should be noted that a limitation to the current research is that the mediating variables were measured as single-item measures. Yet, single-item measures were used because this was expected to be less obtrusive for participants. Also, the use of single item measures has been shown to be a valid way to assess certain measures (see e.g., Sackett & Larson, 1990; Wanous, Reichers, & Hudy, 1997).

Appraisal theory

The present findings are also important because they demonstrate how and why anger reactions may follow circumstances that are actually advantageous to the individual. This is in contrast with the standard appraisal theory predictions of the appraisals that are assumed to be necessary for the elicitation of negative emotions (such as goal incongruence, and motivational discrepancy, for an overview, see Kuppens et al., 2003). Yet, our findings line up with the idea that no appraisal component can be seen as fully necessary for an emotion to occur and that associations among emotion components are not invariant (e.g., Kuppens et al., 2003; Russell, 2003). As such, our findings demonstrate how emotions are not intrinsically linked to fixed contextual meanings, but that there is variability across individuals and contexts about how the appraisal of events may be associated with specific emotions or not. These findings also add to affective events theory (Weiss & Cropanzano, 1996) by showing that also favorable events can lead to negative emotional reactions in group settings, and this in turn is dependent on one's personal disposition.

Practical implications

One of the most central distributive justice principles is the equality rule (Biel et al., 1996; Deutsch, 1975; Van Dijk &

Wilke, 1995, 2000). The equality is often perceived as a normative rule and is linked to fairness (Bazerman et al., 1995). For example, in work teams, it is important that group members tacitly coordinate their decision behavior in order for the project to succeed, so that the work is properly divided among all workers. Also, managers who fail to reward everyone equally in the team, although team members worked about equally hard, is likely to become a situation, which will evoke strong emotional reactions, such as anger. The present research mainly focused on the distributive justice principle of equality of rewards. However, previous research has identified that procedural and interactional justice also contributes to how people will react in a given situation (e.g., Roch & Shanock, 2006). Therefore, in order to shed a clearer and more complete view on emotional reactions as a result of justice violations, personality moderators of distributive, procedural, and interactional justice need to be identified as well. The present research, however, aimed to take a first step in identifying these personality dimensions that are related to violations of equality in rewards with respect to emotional reactions, and more specifically, anger.

Our study may help organizations by identifying the person characteristics and mediating processes that underlie such reactions. The role of individual differences has received renewed interest in the context of the development of work-related affect. Research has convincingly demonstrated that people differ in the extent that they perceive situations and

in the emotional reactions that follow from these perceptions (e.g., Brief, Burke, George, Robinson, & Webster, 1988). Moreover, often, people's reactions are dependent on the combined result of individual differences and the situation people are confronted with (Van Lange, De Cremer, Van Dijk, & Van Vugt, 2007). The present research was able to show that individual differences indeed are important to describe people's anger reactions to unfairness appraisals. Taking into account, personality influences may actually improve one's understanding of the functioning of small-work groups and larger organizations. That is, individuals may differ in the extent that their affective reactions are aroused depending on the specific circumstances of the situation even if one is witnessing unfavorable treatment of someone else whereas at the same time one is treated favorably.

In conclusion, we argued that people's feelings of anger depend on being both favorable and unfavorable treated in the organization and people's personality. Violations of equal outcome payments (i.e., distributive justice) were found to elicit anger reactions as a function of the Big Five personality factors neuroticism and agreeableness. Both the fairness situation and individual differences were shown to be important for gaining understanding in the emergence of feelings of anger. The present research contributes to such an understanding by also focusing on why certain individual differences in both favorable and unfavorable unfair situations elicit anger reactions.

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