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The Justice Sensitivity Inventory: Factorial Validity, Location in the Personality Facet Space, Demographic Pattern, and Normative Data

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Abstract This article investigates the psychometric properties of a self-report inventory for measuring individual differences in four components of justice sensitivity (JS): victim sensitivity, observer sensitivity, beneficiary sensitivity, and perpetrator sensitivity. A representative sample ($N = 2510$) was employed to (a) estimate the reliability of a newly developed perpetrator sensitivity scale, (b) test the factorial validity of this scale together with three previously developed scales (victim, observer, and beneficiary sensitivity), (c) estimate correlations between JS and demographic variables (gender, age, education, employment status, marital status, and residency in East versus West Germany), and (d) provide normative data for the computation of standard scores. A demographically heterogeneous convenience sample ($N = 327$) was used to locate the JS dimensions in the personality space of narrow facet factors. Results from confirmatory factor analyses demonstrated the factorial validity of the JS scales. Regression analyses with JS scales as criteria and personality facet scales as predictors suggested that JS cannot be reduced to combinations of personality facets. Demographic effects were small, explaining a maximum of 1.4% of JS variance. Women and East Germans were found to be more justice sensitive than men and West Germans, respectively. Victim sensitivity decreased with age; perpetrator sensitivity decreased with education. Taken together, our results corroborate the validity of the JS Inventory and contribute to a better psychological understanding of JS.

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Introduction

Justice is a central issue in people's lives. People want to get what they deserve and deserve what they get. They also prefer that others be treated fairly. Moreover, they are eager to be perceived as fair and decent members of society, and they want to be able to trust in the fairness of others. Sociological and psychological accounts of people's need for justice have been offered by a number of influential theories such as relative deprivation theory (Crosby, 1976; Stouffer, Suchman, DeVinney, Star, & Williams, 1949; Walker & Smith, 2002), equity theory (Adams, 1965; Walster, Walster, & Berscheid, 1978), justice motive theory (Hafer & Bègue, 2005; Lerner, 1977, 1980), and procedural fairness theory (Leventhal, 1976; Lind & Tyler, 1988; Thibaut & Walker, 1975).

These theories assume that justice matters to all people. Although this claim has been supported by a large number of empirical studies, the results of these studies have also revealed that individuals differ in their perceptions of and reactions to observed, suffered, or committed injustice. These individual differences provide important information that has been used to empirically identify links among justice perceptions, emotional reactions to injustice, such as anger, and behavioral reactions, such as retaliation against a victimizer or compensation of a victim. Organizational justice provides good examples for this type of research. Based on some of the theories mentioned above as well as on detailed analyses of justice issues at the workplace (e.g., Bies & Moag, 1986; Greenberg, 1993), Colquitt (2001) proposed a four-component model of organizational justice that includes distributive, procedural, interpersonal, and informational justice. Colquitt (2001) also proposed scales for measuring these components. These scales have served in organization justice research to identify antecedents of different types of justice or injustice perceptions, as well as their effects on outcomes such as job satisfaction, job stress, absenteeism, cooperation, organizational citizenship behavior, and counterproductive work behavior (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Streicher et al., 2008).

Individual differences in perceptions of distributive, procedural, interpersonal, and informational justice partly result from differential treatment. In many social contexts, including the work context, some people are rewarded more fairly than others, some are treated more fairly than others, and important information is disclosed more fully to some than to others. However, individual differences in perceived justice cannot be fully accounted for by differential treatment. Justice judgments and behavior also depend on relatively stable individual differences in attitudes, beliefs, and personality factors. Several studies have demonstrated that individuals differ in their general attitudes toward allocation principles such as equity, equality, and need (e.g., Sabbagh, Dar, & Resh, 1994), and these attitudes influence the perceived fairness of a specific outcome. For example, individuals with a positive attitude toward the equity principle and a negative attitude toward

the need principle consider the allocation of rewards according to achievement to be more fair than the allocation of rewards according to needs. Individuals also differ in their attitudes toward principles of procedural justice (Schmitt & Dörfel, 1999). Again, these differences shape the perceived fairness of procedures and reactions that follow from these perceptions. Furthermore, individuals differ in their belief in justice (Lipkus, 1991; Rubin & Peplau, 1975). Individuals with a weak belief in a just world perceive injustice more easily than do people with a strong belief in a just world (Dalbert, 2001; Maes, 1998). Mediated by these perceptions, individual differences in the just world belief influence justice-related emotion and behavior (Montada & Lerner, 1998).

Most importantly in this context, personality traits shape justice perceptions and emotional and behavioral reactions to these perceptions (Major & Deaux, 1982). For example, suspicious and anxious individuals are more sensitive to being exploited and cheated on (Schmitt, Gollwitzer, Maes, & Arbach, 2005). They tend to expect unfair treatment, and this expectation promotes selfish and even antisocial behavior directed at getting even or preventing exploitation (Gollwitzer, Schmitt, Schalke, Maes, & Baer, 2005; Gollwitzer & Rothmund, 2009; Gollwitzer, Rothmund, Pfeiffer, & Ensenbach, 2009). By contrast, agreeable individuals tend to perceive more procedural justice and to ascribe more importance to it than less agreeable individuals do (Van Hiel, De Cremer, & Stouten, 2008).

Attitudes, beliefs, and personality traits not only affect the subjectively perceived fairness of objectively given allocations and procedures, but also amplify or attenuate emotional and behavioral reactions to injustice. For instance, such moderator effects have been found for trust propensity, risk aversion, morality (Colquitt, Scott, Judge, & Shaw, 2006), neuroticism, anxiety, and negative affectivity (Skarlicki, Folger, & Tesluk, 1999; Van Hiel et al., 2008), as well as for agreeableness (Skarlicki et al., 1999). Whereas risk aversion, morality, neuroticism, anxiety, and negative affectivity have amplified reactions to injustice, attenuating effects have been found for trust propensity and agreeableness. Taken together, many studies have revealed direct (main) effects of individual differences in justice attitudes, justice beliefs, and personality traits on justice perceptions and behavior. In addition, these individual differences have been found to moderate the effect of perceived unfairness on outcomes such as emotion and behavior.

Based on this evidence of main and moderator effects of personality traits on justice perceptions and behavior, several authors have proposed that people differ in how justice sensitive they are *in general*, that is, in how *readily* they feel unjustly treated and in how *strongly* they react to perceived unfairness (Dar & Resh, 2001; Huseman, Hatfield, & Miles, 1987; Lovas & Wolt, 2002; Montada, Schmitt, & Dalbert, 1986; van den Bos, Maas, Waldring, & Semin, 2003). Consistent with this proposal, in several studies, individual differences in the readiness and strength of reactions to injustice have been found to generalize across different kinds of unfairness and across different fairness contexts (e.g., Dar & Resh, 2001; Montada et al., 1986; Montada & Schneider, 1989; Schmitt, Behner, Montada, Müller, & Müller-Fohrbrodt, 2000; Schmitt, Reichle, & Maes, 2001). Moreover, several studies have shown that individual differences in justice sensitivity are stable across time (e.g., Schmitt et al., 2005). Because of these observations it seems appropriate

to propose that *justice sensitivity* is a trait (Schmitt, 1996). Understanding the origins and psychological functions of this trait, identifying its location in the personality space, and revealing its effects on behavior require a reliable and valid measure of justice sensitivity.

Schmitt, Neumann, and Montada (1995) suggested four indicators for this purpose: (a) the frequency of experienced injustice, (b) the intensity of emotional reactions to injustice, (c) the intrusiveness of thoughts about unjust events, and (d) the motivation to restore justice. Schmitt et al. (1995) showed that these indicators converge and that they are distinct from frustration tolerance, interpersonal trust, trait anger, and anger expression styles (anger in, anger out, anger control). Additional studies have confirmed the predictive validity of the measure proposed by Schmitt et al. (1995). For instance, it predicted reactions to unfair treatment in a lab situation very well and better than measures of other constructs such as trait anger, anger out, and self-assertiveness (Mohiyeddini & Schmitt, 1997). Schmitt and Mohiyeddini (1996) found a similar pattern of effects in a realistic setting where students were denied enrollment in a desired class because of insufficient teaching resources. Schmitt, Rebele, Bennecke, and Förster (2008) found that vengeful reactions of laid-off employees toward their former employer depended directly and indirectly—mediated by the perceived fairness of the lay-off procedure—on justice sensitivity. Finally, Schmitt and Dörfel (1999) showed that justice sensitivity amplified the effects of organizational fairness on organizational citizenship behavior. The Schmitt and Dörfel (1999) study demonstrated that justice sensitivity not only shaped justice behavior via its direct (main) effect on justice perception, but also amplified the effects of perceived injustice on behavior. This effect is in accordance with the studies reviewed above that found personality traits to be important moderators of fairness effects.

All studies on justice sensitivity mentioned thus far have measured this construct from the victim's perspective. However, episodes of injustice typically involve more perspectives. In most cases, a second person is involved who benefits from the injustice, either passively or actively (Mikula, Petri, & Tanzer, 1990). Furthermore, unjust incidents are often witnessed by observers who are not directly involved. Based on this differentiation of roles, Schmitt et al. (2005) decomposed the justice sensitivity construct, accordingly. They developed three reliable scales for measuring *victim sensitivity*, *observer sensitivity*, and *beneficiary sensitivity* (called perpetrator sensitivity at the time). The correlations among these scales were high enough to conclude that they share a concern for justice as a common element. However, observer and beneficiary sensitivity were more closely related to each other than to victim sensitivity.

In order to understand this pattern, Schmitt et al. (2005) investigated correlations between the three justice sensitivity scales and socially desirable traits (empathy, role taking, social responsibility) as well as socially undesirable traits (machiavellianism, paranoia, vengeance, suspiciousness, jealousy, distrust). Victim sensitivity was positively related to socially undesirable traits and unrelated to socially desirable traits. By contrast, observer and beneficiary sensitivity were positively related to socially desirable traits and unrelated to socially undesirable traits. These correlations suggest that observer and beneficiary sensitivity reflect a genuine

concern for the justice of *others*, whereas victim sensitivity contains, as an additional element, the fear of being exploited, and, thus, reflects a concern for justice for the *self*. This interpretation has received support from studies showing that beneficiary sensitivity predicts compassionate reactions toward disadvantaged groups, whereas victim sensitivity predicts the denial of responsibility for such groups and, moreover, the likelihood of behaving immorally if it is enticing to do so (Gollwitzer et al., 2005). More evidence for the distinctiveness of the three justice sensitivity components was presented by Fetchenhauer and Huang (2004). In social dilemma games, such as the dictator game and the ultimatum game, observer and beneficiary sensitivity were correlated with the likelihood of making cooperative decisions, whereas victim-sensitive participants tended to make egoistic choices (see also Gollwitzer et al., 2009).

Overall, the similarity of effects that were found for justice sensitivity (Schmitt & Dörfel, 1999) compared to those identified for personality traits such as neuroticism, anxiety, and negative affectivity (Skarlicki et al., 1999; Van Hiel et al., 2008) raises the question of how similar or distinct justice sensitivity is compared to established personality traits. As a first step toward clarifying this crucial issue, Schmitt et al. (2005) correlated the justice sensitivity scales with measures of the domain factors of the Five-Factor Model (FFM; openness, conscientiousness, extraversion, agreeableness, and neuroticism) of Personality (Costa & McCrae, 1985). In general, the correlations between the justice sensitivity scales and the personality scales tended to be low. Some correlations were significant, however. For example, when the FFM factors were measured with the NEO-FFI (Borkenau & Ostendorf, 1993), the correlations among victim, observer, and beneficiary sensitivity with neuroticism were .36, .20, and .16, respectively. In addition, victim and beneficiary sensitivity had correlations of −.19 and .19 with agreeableness, respectively. Finally, observer sensitivity correlated significantly (.28) with openness.

Taken together, the available evidence suggests that justice sensitivity is a stable trait that consists of (at least) three related but distinguishable components: victim sensitivity, observer sensitivity, and beneficiary sensitivity. These sensitivities can be measured reliably with self-report scales whose predictive validity has been established in questionnaire, experimental, and field studies. Correlations of the justice sensitivity scales with broad personality factors, social orientations, and other justice constructs (cf. Schmitt et al., 2005) tend to be small, suggesting that justice sensitivity is distinct from broad personality traits and that the justice sensitivity scales have satisfactory discriminant validity.

Despite these encouraging findings, additional research on justice sensitivity is needed in order to obtain a more complete picture of this disposition and its role in shaping social behavior. Most importantly, Schmitt et al. (2005) did not differentiate between passively benefiting from an injustice and actively committing an injustice. The "perpetrator sensitivity" scale (here termed beneficiary sensitivity), which was largely inspired by research on reactions of privileged group members toward the disadvantaged (Montada et al., 1986; Montada & Schneider, 1989; Schmitt et al., 2000, 2001), focuses on passively benefiting from injustice, and not on actively contributing to an injustice. In order to test whether beneficiary sensitivity can be discriminated from perpetrator sensitivity, an additional scale was developed in the

present research for measuring this assumed component of justice sensitivity (see "Method" section).

The *first* goal of the present research was to estimate the factorial validity of all four justice sensitivity scales and to determine the correlations among the four justice sensitivity components. We expected the largest correlation between beneficiary and perpetrator sensitivity because the roles of beneficiaries and perpetrators share several psychological constituents: (a) benefiting from an unfair advantage, (b) guilt as the respective moral emotion (Mikula, Scherer, & Athenstaedt, 1998; Montada et al., 1986), (c) a tendency toward self-punishment in reaction to the unfair advantage (Nelissen & Zeelenberg, 2009), and (d) a desire to compensate the victim(s) of the unfairness (Montada & Schneider, 1989; Tobey-Klass, 1978). Lower correlations were expected for observer sensitivity with beneficiary and perpetrator sensitivity, respectively, because only two elements are shared: (c) perpetrator/beneficiary punishment (Fehr & Gächter, 2002; Nelissen & Zeelenberg, 2009) and (d) victim compensation. The smallest correlation was expected for victim sensitivity and beneficiary and perpetrator sensitivity because the outcomes of victims on the one hand and of beneficiaries or perpetrators on the other are negatively interdependent. Slightly higher correlations were expected between victim and observer sensitivity. Although observers are not directly affected by the injustice that occurred, empathy with the victim can instigate similar, albeit less intense, emotional reactions [victim: anger (Mikula et al., 1998; Törestad, 1990); observer: moral outrage (Montada, 1993)] and similar, albeit less intense, punitive actions toward the perpetrator.

Second, Schmitt et al. (2005) located justice sensitivity in the personality space of broad domain factors. Knowing how the justice sensitivity components are correlated with *broad* personality traits is valuable for understanding the psychological nature of justice sensitivity and for showing that it is sufficiently distinct from established personality factors. Yet this knowledge needs to be complemented by empirical evidence of how justice sensitivity is related to *narrow* personality factors. It is not plausible to assume that justice sensitivity belongs to the broad factors that are located at the highest level of the personality hierarchy, the domain factors (Costa & McCrae, 1985), second-order factors (Cattell, 1966), or type factors (Eysenck, 1953). It seems more plausible to assume that justice sensitivity is a narrow factor that parallels personality factors located at the level of facet factors (Costa & McCrae, 1985), first-order factors (Cattell, 1966), or trait factors (Eysenck, 1953). Therefore, a second goal of the present research was to determine the correlations between the justice sensitivity components and personality factors at the facet level.

Determining these correlations is important for several reasons. Introducing a new construct requires demonstrating that it is not highly similar to constructs that have already been established. A new construct should not be reducible to established constructs. In other words, it should be more than a combination of established constructs. We expected moderate correlations between justice sensitivity and personality facets because all personality factors below the highest-order factors are correlated more or less among each other (Cattell, 1966; Costa & McCrae, 1985; Eysenck, 1953), and these correlations are important for understanding the psychological meaning of these factors. Accordingly, the pattern of correlations

between the justice sensitivity components and personality facet factors can contribute to a better understanding of the psychological nature and functions of justice sensitivity. For example, if victim sensitivity reflects a fear of being exploited and promotes preventive and vengeful strikes against perceived or believed perpetrators, as we have argued, it should correlate with the hostility facet of the neuroticism domain. As a second example, if beneficiary and perpetrator sensitivity reflect an authentic commitment to justice for others, they should correlate with the dutifulness facet of the conscientiousness domain because this facet represents the core of trait morality (Colquitt et al., 2006).

A *third* goal of the present research was to investigate correlations between justice sensitivity and demographic variables. In the same way that knowledge about the correlations between justice sensitivity and personality factors contributes to a better understanding of the origins and functions of justice sensitivity, so will knowledge about the correlations between justice sensitivity and demographic variables. For example, if justice sensitivity decreases with age, this could indicate that repeated exposure to injustices has a desensitizing rather than a sensitizing effect.

Fourth, the representative sample we have recruited provides a normative dataset that can be used for the computation of standard scores, as a reference for studies that use German samples of unknown representativeness and as a reference for studies conducted in other countries that have employed adaptations of the justice sensitivity scales.[1]

Method

Samples

Sample 1

First, a demographically representative sample was drawn from the German population by a certified poll agency. Two hundred fifty-eight sample points were defined based on the population density distribution across administrative communities. Two hundred ten of these sample points were located in West Germany, 48 in East Germany. Fifty households were randomly drawn for each sample point. From household members who were at least 14 years old, one person was drawn at random. Of the 4,205 persons who were drawn by this procedure, $N = 2510$ (60%) agreed to participate and provided valid answers to the Justice Sensitivity Inventory. At the time of data collection, ages ranged from 14 to 93 years ($M = 47.97$, $SD = 17.79$). Fifty-five percent of the participants were female. Sample 1 was used

[1] The justice sensitivity scales were originally developed in German. Besides the German and the English (see "Appendix" section) versions, Chinese, French, Croatian, Dutch, Turkish, and Czech versions of the scales are available and can be obtained upon request. Note, however, that the measurement equivalence of these versions *vis-à-vis* the original German version has not yet been tested. Knowing the distribution of the German scales in a representative sample of German citizens may be valuable for the process of investigating measurement equivalence, and, eventually, for identifying cross-cultural differences in justice sensitivity.

to determine the correlations among the justice sensitivity components, the factorial validity of the scales, and norms, as well as correlations between justice sensitivity and demographic variables.

Sample 2

Second, a demographically heterogeneous, albeit nonrepresentative convenience sample consisting of $N = 327$ relatives and friends was recruited by psychology students for partial fulfillment of a class assignment. At the time of data collection, ages ranged from 14 to 83 years ($M = 32.71$, $SD = 14.65$). Fifty-nine percent of the participants were female. Sample 2 was used to determine correlations between the justice sensitivity components and the personality facet factors of the FFM.

Measures

Justice Sensitivity Inventory

The Justice Sensitivity Inventory includes four questionnaire scales measuring victim, observer, beneficiary, and perpetrator sensitivity. Each scale contains ten items that are answered on a 6-point rating scale ranging from 0 (*not at all*) to 5 (*exactly*). The wording of all items appears in the "Appendix" section. The victim, observer, and beneficiary scales were introduced and described in detail by Schmitt et al. (2005). The new perpetrator scale was designed to match the previous scales as closely as possible in types of injustice and item wording.[2]

Personality Facets

In Sample 2, personality facets were measured with the German version of the NEO-PI-R (Ostendorf & Angleitner, 2004).

[2] The crucial psychological elements that differ between perspectives include emotions experienced in the face of injustice (Mikula et al., 1990, 1998; Montada, 1993). Sensitive victims get angry, sensitive observes get morally outraged, and sensitive perpetrators feel guilty (Tobey-Klass, 1978). Guilt is also the predominant emotion of sensitive beneficiaries (Montada et al., 1986). However, whereas perpetrator guilt is a reaction to active wrongdoing, beneficiary guilt refers to benefitting passively from the wrongdoing of another person or from an unjust fate. Accordingly, perpetrator guilt has been called *action guilt* and beneficiary guilt has been called *existential guilt* (Hoffman, 1976; Montada et al., 1986). Consequently, the perpetrator scale differs from the other scales in referring to (a) injustice as a cause of one's own active wrongdoing, and (b) guilt as emotional reaction. We decided to change only the crucial psychological elements across perspectives and to hold the types of injustice invariant. Specifically, all perspectives equally address distributive, procedural, and interpersonal justice. This way we avoided confounding perspectives and types of injustice, which would have inevitably resulted in an overestimation of the distinctiveness of the justice sensitivity components and the factorial validity of the scales. A disadvantage of this decision may be that holding types of injustice invariant across perspectives introduces a common source of variance if people differ in how morally wrong they consider different types of injustice to be. This common source of variance may inflate the correlations among the justice sensitivity scales and make the sensitivity components appear more similar than they truly are. However, despite this potential disadvantage, our decision seems preferable as it is more conservative and works against our proposal that justice sensitivity can be decomposed into several components.

Demographic Variables

In Sample 1, gender, age, residency in East versus West Germany, education, employment status, and marital status were recorded.

Results

Descriptive Statistics of the Justice Sensitivity Items and Scales

Descriptive item statistics and scale (i.e., sums across items) statistics were computed on the data from the representative Sample 1. Item statistics are presented in Table 1, whereas scale statistics in the upper part of Table 2. Item and scale statistics for the victim, observer, and beneficiary scales differed slightly from those reported by Schmitt et al. (2005). This reflects the fact that, unlike Sample 1 of this research, the samples employed by Schmitt et al. (2005) were heterogeneous with respect to many demographic variables, but were not fully representative of the German population.

As can be seen from Table 2, the skewness of the distributions of all four scales was very small. In other words, distributions were nearly symmetrical. Nevertheless, the means of the four sensitivity scales differed noticeably. On average, people described themselves as being more perpetrator sensitive than beneficiary sensitive. Thus, on the level of means, perpetrator sensitivity and beneficiary sensitivities could be distinguished although they share more psychological elements than any two other perspectives.

The distributions of all four scales had a slight negative kurtosis (flatness). Due to the small number of ten items per scale, their similar difficulties (cf. item means in Table 1), and the high inter-item correlations within scales, the discriminative power of all four scales was limited for individuals with extremely high or

Table 1 Item statistics of the justice sensitivity inventory

Item	Victim			Observer			Beneficiary			Perpetrator		
	M	*SD*	r_{it}	*M*	*SD*	r_{it}	*M*	*SD*	r_{it}	*M*	*SD*	r_{it}
1	2.21	1.63	.79	2.14	1.42	.80	2.16	1.45	.77	2.78	1.62	.84
2	2.53	1.64	.82	2.25	1.44	.82	2.45	1.53	.76	2.64	1.53	.86
3	2.44	1.60	.82	2.37	1.50	.79	2.38	1.50	.77	2.99	1.62	.84
4	2.24	1.58	.77	2.01	1.41	.78	2.40	1.51	.73	2.69	1.55	.86
5	2.26	1.55	.82	2.06	1.37	.83	1.81	1.36	.79	2.48	1.51	.85
6	2.02	1.54	.78	2.14	1.43	.82	1.69	1.36	.77	3.02	1.65	.85
7	2.11	1.56	.78	1.97	1.38	.77	1.61	1.32	.75	2.69	1.61	.82
8	2.16	1.54	.81	1.96	1.39	.78	1.73	1.36	.78	2.45	1.49	.83
9	2.50	1.58	.83	2.20	1.44	.83	1.86	1.37	.82	2.44	1.46	.85
10	2.80	1.61	.82	2.40	1.47	.83	1.73	1.39	.77	2.56	1.51	.84

Table 2 Descriptive statistics of the justice sensitivity scales and correlations among the scales and among the latent factors as estimated from the accepted confirmatory factor models for item parcels and test halves

	Victim	Observer	Beneficiary	Perpetrator
Descriptive statistics of the justice sensitivity scales				
M	23.27	21.51	19.83	26.75
SD	13.40	12.04	11.60	13.60
Skewness	.06	−.17	.18	−.24
Kurtosis	−.90	−.69	−.54	−.84
Alpha	.96	.96	.95	.97
Correlations among the scales/factors for item parcel/factors for test halves				
Observer	.52/.54/.54			
Beneficiary	.33/.39/.38	.70/.76/.76		
Perpetrator	.32/.34/.34	.62/.65/.64	.77/.80/.79	

extremely low justice sensitivity scores. However, these ceiling and bottom effects were not pronounced (cf. Table 6). All scales were found to be highly consistent ($\alpha > .94$).

Factorial Validity

Using the data from the representative Sample 1 and employing LISREL 8.7 (Jöreskog & Sörbom, 2001), the factorial validity of the Justice Sensitivity Inventory was tested via confirmatory factor analyses.[3] Following recommendations in the structural equation modeling literature, parcels were used instead of items (Bandalos & Finney, 2001; Little, Cunningham, Shahar, & Widaman, 2002). Because parcels are more likely to be normally distributed compared to items, the assumptions underlying maximum-likelihood parameter estimation are also more likely to be met. Moreover, parceling reduces the complexity of structural equation models, which generally leads to more robust parameter estimates. Parcels consisted of item pairs that were equal for all scales (1 + 6, 2 + 7, 3 + 8, 4 + 8, 5 + 10). First, a model was tested that imposed a perfect simple structure on the loading matrix (all secondary loadings fixed to 0) and did not allow for correlated errors but

[3] Confirmatory factor analysis was considered more appropriate than exploratory factor analysis (EFA) because we had clear expectations about the factorial structure of the 40 items. Nevertheless, results from EFA can be informative because obtaining an expected factorial structure without imposing any restrictions provides support for the theoretically predicted structure. For this reason, we also performed an EFA (principle axes factoring with oblimin rotation to simple structure). The results of this analysis (factor pattern and factor structure matrices) can be obtained from the authors upon request. As predicted, the first four factors had eigenvalues >1. After rotation, the simple structure of the victim, observer, and perpetrator items was close to perfect: Primary loadings were high; secondary loadings were close to zero. By contrast, the first four beneficiary items had high loadings on the perpetrator factor. Although this is a limitation from a measurement point of view, it is theoretically feasible because, unlike items 5 through 10, these items imply a negative interdependence between one's own advantage and another's disadvantage. This direct interdependence comes closer to agency than does benefitting from injustice without an identifiable victim.

only for correlated factors. This model could not reproduce the empirical covariance matrix satisfactorily according to conventional fit criteria, $\chi^2(164, N = 2510) = 2827.76$, $p < .01$, Root Mean Square Error of Approximation (RMSEA) = .086, Comparative Fit Index (CFI) = .98. Note that the chi-square test had extreme statistical power and was thus extremely sensitive to even small degrees of model misfit. For this reason, the use of absolute fit indices such as the RMSEA and the CFI is recommended when the sample size is as large as in our analysis. Model fit is considered acceptable if the RMSEA is smaller than .08 and if the CFI is larger than .95 (Browne & Cudeck, 1993; Hu & Bentler, 1999; Wen, Hau, & Marsh, 2004). Thus, the tested model met only the CFI criterion, but not the RMSEA criterion of acceptable absolute model fit.

Inspection of the fitted residuals and the modification indices suggested that local misfit was primarily due to constraining correlated errors across scales to zero among parcels consisting of analogue items. Accordingly, a model that allowed for correlations among these errors fit the data well, $\chi^2(134, N = 2510) = 2001.89$, $p < .01$, RMSEA = .077, CFI = .99, and significantly better than the more constrained model, $\Delta\chi^2(30, N = 2510) = 825.87$, $p < .01$. In addition to the better overall fit of this model, local misfit was reduced in comparison to the model without correlated errors. Importantly, error correlations among parcels consisting of analogue item pairs do not necessarily speak against the factorial validity of the scales. Rather, these correlations imply that the types of injustice that were combined in the parcels generated unique variance that was consistent across perspectives. This means that participants differed in how serious they considered specific kinds of injustice to be when compared to other kinds, irrespective of the perspective from which the injustice was judged (cf. footnote 2). The magnitude of the correlations between measurement errors was, on average, very small ($M_{corr} = .02$). Therefore, and because of its relatively good fit, this model was accepted for estimating the

Table 3 Primary factor loadings of item parcels and test halves as estimated from the accepted confirmatory factor models (all secondary loadings = 0)

Parcel (Items)	Factor loadings of item parcels			
	Victim	Observer	Beneficiary	Perpetrator
1 (1, 6)	.88	.91	.91	.91
2 (2, 7)	.92	.91	.91	.92
3 (3, 8)	.91	.90	.91	.93
4 (4, 9)	.88	.90	.90	.93
5 (5, 10)	.91	.92	.86	.92
Test half	Factor loadings of test halves			
	Victim	Observer	Beneficiary	Perpetrator
Odd items	.97	.96	.96	.97
Even items	.96	.97	.97	.98

factor loadings of indicator variables and the correlations between factors. The factor loadings are given in Table 3; the correlations between latent factors are presented in the lower part of Table 2.

To complement the analyses conducted on parcels, additionally, test halves consisting of odd versus even items were submitted to a confirmatory factor analysis. Test halves are superior to item parcels for the same reasons that make parcels superior to single items. Thus, unsurprisingly, the perfect simple structure model for test halves with correlated factors and uncorrelated errors fits well, $\chi^2(14, N = 2510) = 141.11$, $p < .01$, RMSEA = .062, CFI = 1. Descriptively, it fits better than the models using item parcels, and the local misfit of this model was very small. Therefore, this model was accepted for estimating factor loadings (Table 3) and factor correlations (lower part of Table 2).

The correlations between the factors (lower part of Table 2) were notable in four regards. *First*, the correlations between latent factors from the models with parceled items were virtually identical to those from the model with test halves. *Second*, these correlations were only slightly higher than the correlations between the scales that contained measurement error. This similarity between the latent and the manifest correlations reflected the high reliability of the scales. *Third*, signs and magnitudes of the inter-factor correlations corresponded exactly to what we had predicted based on the number and types of psychological elements that the four sensitivity components share. *Fourth*, the very high correlations between the beneficiary and the perpetrator sensitivity factors and scales raised concerns about the psychological uniqueness of these two sensitivity constructs and the discriminant validity of the scales that were designed to measure them.

In order to investigate this issue in more detail, the correlation between both factors was constrained to be 1 in the accepted models for parcels and test halves. Due to this restriction, the fit of the model for parcels dropped substantially, $\chi^2(135, N = 2510) = 6464.52$, $p < .01$, RMSEA = .16, CFI = .96. The decrease in model fit was highly significant, $\Delta\chi^2(1, N = 2510) = 4462.63$, $p < .01$. This was even more true for the model for test halves, $\chi^2(15, N = 2510) = 3025.98$, $p < .01$, RMSEA = .23, CFI = .89. Again, the decrease in model fit was highly significant, $\Delta\chi^2(1, N = 2510) = 2884.87$, $p < .01$. These results clearly confirm that the beneficiary and the perpetrator scales do not share a single common factor. Rather, they measure distinct constructs despite their high correlation.[4]

Locating Justice Sensitivity in the Personality Facet Space

Unlike personality *domain* factors of the FFM, personality *facet* factors of this model are substantially correlated within domains. This is an implication of the

[4] Following the suggestion of a reviewer, models with fewer factors could be assumed up to a single (general) sensitivity factor model. However, as results of the analysis just reported with the correlation between perpetrator factor and beneficiary factor constrained to 1 have shown, all four factors were needed to account for the variances of and covariances among the manifest variables. Because perpetrator and beneficiary factors had the highest correlation of all factors, any other model with a reduced number of factors would, by mathematical implication, fit even worse.

hierarchical structure of the model. Thus, since there is a certain degree of redundancy between facets, to test the distinctiveness of a new construct from personality facet factors, it is appropriate to perform a multiple regression analysis with the new construct as the criterion variable and the correlated personality factors as predictors. Such an analysis will reveal how closely related versus independent the new construct is from the set of all personality facets. This can be seen from the size of the squared multiple correlation (R^2). Moreover, a multiple regression analysis can identify the unique relations between the new construct and each personality facet when all remaining facets are controlled for. These unique relations correspond to the beta weights of the personality facets. The profile of beta weights allows for locating the new construct in the personality facet space, which contributes to a better understanding of the psychological nature of the new construct. Finally, the comparative patterns of beta weights for several new constructs reveal similarities among and differences between new constructs.

Following this rationale and using the stepwise inclusion method, each justice sensitivity scale was separately regressed on the 30 personality facet scales of the NEO-PI-R. Table 4 reports the facet factors that obtained significant ($p < .01$) regression weights in these analyses and thus shared unique variance with the justice sensitivity scales. The pattern of regression weights not only revealed similarities, but also remarkable differences among the four justice sensitivity perspectives.

First, all justice sensitivity constructs shared unique variance with the feelings facet of openness (O). This facet was the only facet from the O domain that was uniquely related to justice sensitivity.

Second, observer, beneficiary, and perpetrator sensitivity shared unique variance with the same two facets of agreeableness (A), namely, modesty and tender-mindedness. In sharp contrast to this similarity, victim sensitivity correlated negatively with another facet of A: compliance.

Table 4 Significant ($p < .01$) standardized multiple regression weights of NEO-PI-R-Facet Scales as predictors of the four justice sensitivity scales

Victim (R^2 = .24)		Observer (R^2 = .23)		Beneficiary (R^2 = .31)		Perpetrator (R^2 = .33)	
NEO-facet	β	NEO-facet	β	NEO-facet	β	NEO-facet	β
N4: Self-consciousness	.26	N4: Self-consciousness	.29	A5: Modesty	.27	C3: Dutifulness	.25
N2: Hostility	.22	A5: Modesty	.21	C3: Dutifulness	.24	A6: Tender-mindedness	.23
A4: Compliance	−.19	O3: Feelings	.19	N4: Self-consciousness	.19	O3: Feelings	.20
O3: Feelings	.17	A6: Tender-mindedness	.15	A6: Tender-mindedness	.19	A2: Straightforwardness	.16
		E3: Assertiveness	.15	O3: Feelings	.15	A5: Modesty	.16

O openness, *C* conscientiousness, *E* extraversion, *A* agreeableness, *N* neuroticism

Third, and consistent with the previous pattern, victim sensitivity had a unique correlation with hostility (a facet of neuroticism N). Observer, beneficiary, and perpetrator sensitivity were unrelated to this facet.

Fourth, observer sensitivity could be distinguished from the other sensitivities by its unique correlation with assertiveness (a facet of extraversion E).

Fifth, beneficiary and perpetrator sensitivity shared unique variance not only with feelings (O), tender-mindedness (A), and modesty (A), but also with dutifulness as a facet of conscientiousness (C).

Sixth, despite the similarities between beneficiary and perpetrator sensitivity, the pattern of regression weights differed between these components. Most importantly, modesty had the highest weight in predicting beneficiary sensitivity but the lowest weight in predicting perpetrator sensitivity. Furthermore, only perpetrator sensitivity was uniquely related to straightforwardness as the moral component of A. Finally, perpetrator sensitivity did not seem to be affected by self-related concerns: Unlike beneficiary sensitivity, it had no unique correlation with self-consciousness (N).

Altogether, it is noteworthy that the pattern of regression weights reported here is in good agreement with the pattern of correlations that was obtained by Schmitt et al. (2005) for the personality domain space using data from a different sample. Last but not least, the R^2 values reported in Table 4 show that the multiple correlations between the justice sensitivity constructs and the personality facets were limited. A maximum of 33% of justice sensitivity was explained by a combination of personality facets.

Demographic Differences in Justice Sensitivity

Table 5 displays mean differences in justice sensitivity between demographic groups.

Gender

Women were significantly more justice sensitive than men. However, gender effects were small and explained at most 1% of the variance.

Age

Age effects differed across the justice sensitivity components. Victim sensitivity decreased monotonically with age. No monotonic age trend was observed for the remaining justice sensitivity components. However, the youngest age group differed significantly from all older age groups in beneficiary sensitivity and in perpetrator sensitivity. Adolescents were pronouncedly less beneficiary and perpetrator justice sensitive than adults. However, the percentage of justice sensitivity variance that was accounted for by age was small with a maximum of 2%.

Table 5 Mean differences on justice sensitivity scales between demographic groups

		Victim	Observer	Beneficiary	Perpetrator
Gender	η^2	.002	.002	.007	.01
Male	*M*	23.91 (a)	20.99 (a)	18.76 (a)	25.15 (a)
Female	*M*	22.70 (b)	21.93 (a)	20.74 (b)	28.08 (b)
Age	η^2	.02	.002	.004	.005
<18	*M*	27.00 (a)	19.51 (a)	16.61 (a)	21.77 (a)
18–25	*M*	25.33 (a, b)	21.24 (a, b)	20.72 (b)	27.17 (b)
26–45	*M*	24.10 (b, c)	21.42 (a, c)	19.85 (b)	26.89 (b)
46–65	*M*	23.33 (c)	21.46 (a, d)	20.07 (b)	26.89 (b)
>65	*M*	20.03 (d)	22.19 (b, c, d)	19.66 (b)	27.02 (b)
East–West Germany	η^2	.006	.006	.005	.005
East	*M*	25.45 (a)	23.29 (a)	21.39 (a)	28.69 (a)
West	*M*	22.69 (b)	21.05 (b)	19.45 (b)	26.25 (b)
Education	η^2	.002	.002	.007	.014
<8 years	*M*	23.86 (a, b)	21.29 (a, b)	19.76 (a, b)	21.24 (a)
8 years	*M*	22.58 (b)	20.94 (b)	18.93 (b)	25.55 (b)
10 years	*M*	23.77 (a)	22.04 (a)	20.81 (a, c)	27.69 (c)
≥12 years	*M*	22.75 (a, b)	22.20 (a, b)	20.91 (a, c)	29.50 (d)
Employment status	η^2	.007	NS	NS	NS
Employed	*M*	23.76 (a)	21.30	20.15	26.76
Unemployed	*M*	27.32 (b)	22.79	19.66	26.46
Marital status	η^2	.007	NS	NS	NS
Single	*M*	25.11 (a)	21.54	19.62	25.88
Married	*M*	22.82 (b)	21.45	20.10	26.90
Divorced/widowed	*M*	22.07 (b)	21.60	19.45	27.38

Note: Means with different letters column-wise differed significantly ($p < .01$)

Residency in East Versus West Germany

East Germans were more justice sensitive than West Germans. Again, the size of this effect was small, with less than 1% of justice sensitivity variance explained by residency in East versus West Germany.

Education

The relationship between justice sensitivity and education differed across types of justice sensitivity. Only one clear trend was observed: Perpetrator sensitivity increased monotonically with education. This effect accounted for 1.4% of the variance of this justice sensitivity component.

Employment Status

Being employed versus unemployed made a significant difference only for victim sensitivity with unemployed participants reporting higher victim sensitivity compared to employed participants.

Marital Status

Single participants were significantly more victim sensitive than married, divorced, or widowed participants. No other difference was statistically reliable.

Normative Data and Standard Scores

Because Sample 1 was representative of the German population, it was used for the computation of standard scores. Table 6 displays raw scores as well as the respective percentiles and linear and nonlinear *T*-scores. Linear *T*-scores were computed from *z*-scores ($T = 10z + 50$). Nonlinear *T*-scores were computed from *z*-scores that corresponded to percentiles in the standard normal distribution. In this manner, nonlinear *T*-scores correct for deviations of the raw score distributions from the normal distribution.[5]

Discussion

Complementing research on individual differences in justice perceptions (e.g., Colquitt, 2001), research on attitudes, beliefs, and personality traits that shape such perceptions and respective reactions has identified relatively stable and consistent individual differences in justice sensitivity. Accordingly, justice perceptions and behavior are determined by individual readiness to perceive injustice as well as cognitive, affective, and motivational reactivity to such perceptions. Importantly, trait justice sensitivity affects perceptions of and reactions to different kinds of injustice (e.g., Schmitt & Dörfel, 1999; Schmitt & Mohiyeddini, 1996). Moreover, it can be differentiated into the perspectives from which injustice may be perceived. Specifically, victim sensitivity, observer sensitivity, beneficiary sensitivity, and perpetrator sensitivity can be theoretically distinguished. To corroborate this distinction, our first research goal was to explore the psychometric properties of a newly developed scale for measuring perpetrator sensitivity as a component of justice sensitivity in addition to victim, observer, and beneficiary sensitivity. The new scale was found to be highly reliable. Moreover, confirmatory factor analyses demonstrated the distinctiveness of the perpetrator sensitivity construct *vis-à-vis* the other justice sensitivity perspectives and the discriminant validity of its scale.

[5] For example, it can be seen from Table 6 that an observer sensitivity raw score of 10 corresponds to the 22nd percentile of the observer sensitivity distribution. Furthermore, as normal distribution calculators affirm, a *z*-score of $z = -.77219$, for example, cuts 22% of the area under the standard normal distribution to the left. It follows that: $T - \text{nl} = -.77219 \times 10 + 50 = 42.28$. This value differs by only a small rounding error from the value given in Table 6.

Table 6 Transformation of raw scores into percentiles, linear *T*-Scores ($T-\mathrm{l}$), and nonlinear *T*-scores ($T-\mathrm{nl}$)

Raw-score	Victim			Observer			Beneficiary			Perpetrator		
	Percentile	$T-\mathrm{l}$	$T-\mathrm{nl}$	Percentile	$T-\mathrm{l}$	$T-\mathrm{nl}$	Percentile	$T-\mathrm{l}$	$T-\mathrm{nl}$	Percentile	$T-\mathrm{l}$	$T-\mathrm{nl}$
0	5.6	32.63	34.11	6.9	32.13	35.15	6.4	32.91	34.79	5.4	30.33	33.90
1	6.4	33.38	34.78	7.3	32.97	35.47	7.2	33.77	35.37	5.5	31.07	34.01
2	7.5	34.13	35.60	8.3	33.80	36.16	8.1	34.63	36.01	6.0	31.80	34.46
3	8.6	34.87	36.34	9.3	34.63	36.76	9.6	35.49	36.94	6.8	32.54	35.07
4	10.1	35.62	37.24	10.3	35.46	37.34	11.1	36.35	37.81	7.3	33.27	35.43
5	11.5	36.37	38.00	11.6	36.29	38.02	12.3	37.22	38.42	7.9	34.01	35.90
6	13.1	37.11	38.78	13.1	37.12	38.77	13.8	38.08	39.11	9.0	34.74	36.60
7	14.9	37.86	39.59	14.4	37.95	39.39	15.5	38.94	39.86	9.9	35.48	37.12
8	16.7	38.60	40.34	16.1	38.78	40.08	18.0	39.80	40.84	11.1	36.21	37.77
9	18.7	39.35	41.11	17.5	39.61	40.67	20.0	40.66	41.58	12.0	36.95	38.24
10	21.4	40.10	42.07	22.0	40.44	42.29	24.1	41.53	42.97	15.1	37.68	39.66
11	23.7	40.84	42.84	23.5	41.27	42.79	26.3	42.39	43.66	16.2	38.42	40.15
12	25.6	41.59	43.44	25.5	42.10	43.41	28.9	43.25	44.43	17.7	39.15	40.73
13	27.4	42.34	43.99	27.8	42.93	44.11	32.0	44.11	45.31	19.0	39.89	41.22
14	29.1	43.08	44.50	30.0	43.76	44.75	34.1	44.97	45.91	20.8	40.63	41.88
15	31.1	43.83	45.07	32.2	44.59	45.37	36.7	45.84	46.61	22.2	41.36	42.36
16	33.2	44.57	45.66	34.2	45.42	45.93	40.4	46.70	47.57	24.0	42.10	42.94
17	35.4	45.32	46.25	36.5	46.25	46.54	43.5	47.56	48.35	26.2	42.83	43.63
18	37.5	46.07	46.81	39.3	47.08	47.29	45.5	48.42	48.87	28.3	43.57	44.26
19	39.2	46.81	47.26	41.2	47.92	47.77	48.1	49.28	49.51	31.0	44.30	45.03
20	41.9	47.56	47.96	45.2	48.75	48.80	52.8	50.15	50.70	34.1	45.04	45.89
21	44.2	48.31	48.54	48.0	49.58	49.49	56.1	51.01	51.55	35.9	45.77	46.39
22	46.1	49.05	49.02	51.3	50.41	50.32	59.9	51.87	52.50	38.3	46.51	47.02

Table 6 continued

Raw-score	Victim			Observer			Beneficiary			Perpetrator		
	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$
23	49.0	49.80	49.75	54.2	51.24	51.05	62.9	52.73	53.30	40.4	47.24	47.58
24	51.9	50.54	50.48	57.9	52.07	51.99	65.4	53.59	53.96	42.5	47.98	48.10
25	54.8	51.29	51.21	61.4	52.90	52.88	68.5	54.46	54.81	44.7	48.71	48.67
26	57.6	52.04	51.92	64.3	53.73	53.68	70.8	55.32	55.49	47.0	49.45	49.24
27	59.9	52.78	52.51	67.0	54.56	54.40	73.5	56.18	56.28	48.8	50.18	49.70
28	63.0	53.53	53.32	69.6	55.39	55.12	76.3	57.04	57.16	50.9	50.92	50.22
29	65.4	54.28	53.96	72.5	56.22	55.97	78.6	57.91	57.93	53.2	51.65	50.81
30	68.3	55.02	54.76	76.4	57.05	57.20	81.9	58.77	59.10	57.3	52.39	51.85
31	70.4	55.77	55.36	79.0	57.88	58.07	83.5	59.63	59.76	59.7	53.13	52.45
32	73.2	56.51	56.19	81.1	58.71	58.80	85.4	60.49	60.53	62.1	53.86	53.07
33	75.1	57.26	56.78	83.0	59.54	59.53	87.0	61.35	61.26	64.3	54.60	53.68
34	77.5	58.01	57.55	84.6	60.37	60.18	88.3	62.22	61.92	66.8	55.33	54.35
35	79.3	58.75	58.17	87.1	61.20	61.29	90.1	63.08	62.88	69.2	56.07	55.02
36	81.4	59.50	58.93	89.0	62.03	62.29	91.5	63.94	63.70	71.8	56.80	55.77
37	83.5	60.25	59.74	90.4	62.87	63.07	92.5	64.80	64.37	74.1	57.54	56.47
38	85.5	60.99	60.58	91.6	63.70	63.77	93.7	65.66	65.31	76.8	58.27	57.34
39	87.0	61.74	61.26	93.2	64.53	64.91	94.7	66.53	66.14	79.0	59.01	58.05
40	89.7	62.49	62.65	95.2	65.36	66.61	96.2	67.39	67.74	83.0	59.74	59.53
41	91.0	63.23	63.41	96.1	66.19	67.60	96.9	68.25	68.63	85.2	60.48	60.46
42	92.0	63.98	64.05	96.8	67.02	68.58	97.4	69.11	69.43	87.3	61.21	61.41
43	93.1	64.72	64.83	97.2	67.85	69.11	97.9	69.97	70.29	88.5	61.95	62.03
44	94.6	65.47	66.07	97.8	68.68	70.07	98.2	70.84	70.96	90.0	62.68	62.83
45	95.5	66.22	66.95	98.2	69.51	70.97	98.5	71.70	71.64	92.1	63.42	64.15

Table 6 continued

Raw-score	Victim			Observer			Beneficiary			Perpetrator		
	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$	Percentile	$T-1$	$T-\text{nl}$
46	96.1	66.96	67.62	98.4	70.34	71.45	98.7	72.56	72.32	93.6	64.15	65.24
47	96.7	67.71	68.38	98.8	71.17	72.57	98.8	73.42	72.57	95.0	64.89	66.40
48	97.2	68.46	69.11	99.0	72.00	73.27	99.2	74.28	74.08	96.2	65.63	67.69
49	97.7	69.20	69.95	99.2	72.83	74.28	99.4	75.15	75.12	96.8	66.36	68.51
50	100.0	69.95	75.76	100.0	73.66	75.76	100.0	76.01	75.76	100.0	67.10	75.76

Note: Because the *z*-score of the standard normal distribution that corresponds to the percentile score of 100 equals ∞, the percentile score of 100 was replaced by a percentile score of 95.5 for the computation of the nonlinear *T*-scores

Despite their distinctiveness, victim, observer, beneficiary, and perpetrator sensitivity share an amount of variance that depends on the specific sensitivity components that are compared. Based on the shared and unshared psychological elements that constitute the roles of victims, observers, beneficiaries, and perpetrators, we predicted a pattern of correlations that was fully confirmed by the data. The largest correlation was found between beneficiary and perpetrator sensitivity. This result had been expected because the roles of beneficiaries and perpetrators have more psychological elements in common than any other two roles (benefiting from injustice, guilt as emotional reaction, tendencies toward self-punishment, and victim compensation).

Taken together, the four justice sensitivity traits can be clearly discriminated from each other. Importantly, our results also corroborate that no justice sensitivity perspective can be replaced by well-known personality factors, even if the latter are specified on the facet level and combined in a way that maximizes the multiple correlation. Thus, justice sensitivity is more than merely a combination of other personality traits. Notwithstanding this important finding, justice sensitivity is not independent from personality facets in the FFM. Rather, meaningful links between justice sensitivity and both domain and facet traits were identified by Schmitt et al. (2005), as well as in the present analyses.

These links reveal important insights into the psychological nature of justice sensitivity. In particular, these links are partly shared and partly unique. The only link that all justice sensitivity components have in common is a unique correlation with openness to feelings. People who are open to feelings are also more sensitive to injustice no matter whether they suffer from injustice, observe injustice, benefit passively from injustice, or actively commit injustice. Next, observer, beneficiary, and perpetrator sensitivity correlated with two facets of the agreeableness domain, namely, modesty and tender-mindedness. This pattern is consistent with the conclusion drawn by Schmitt et al. (2005) that observer and beneficiary sensitivity represent a genuine concern for justice for others. In their study, observer and beneficiary sensitivity were significantly correlated with prosocial and socially desirable traits such as empathy, role taking, and social responsibility.

Although observer, beneficiary, and perpetrator sensitivity share several links with personality facets, the strength of these links differ among them. In addition, each justice sensitivity component has unique links with personality facets, that is, links that are not shared by any other justice sensitivity components. For example, beneficiary sensitivity is more strongly linked with modesty than perpetrator sensitivity. By contrast, only perpetrator sensitivity, and not beneficiary sensitivity, is linked with straightforwardness, the moral facet of the agreeableness domain. Furthermore, observer sensitivity contains a specific personality element that is not part of beneficiary and perpetrator sensitivity: assertiveness as a facet of extraversion. This unique correlation between observer sensitivity and assertiveness suggests that observer-sensitive individuals are motivated not only by a concern for just interactions among others, but also seem to have sufficient self-confidence for intervening when they come across injustice as observers.

Finally, victim sensitivity is related quite differently to personality traits compared to the remaining justice sensitivity perspectives. As the pattern of regression weights in Table 4 indicates, victim-sensitive individuals tend to be uncooperative and hostile. These results correspond to those of a previous study with a very large sample (Schmitt et al., 2005) that showed that victim sensitivity was significantly correlated with several self-related concerns such as suspiciousness and jealousy proneness. Taken together, although victim-sensitive people are justice sensitive, they are more concerned about justice for themselves than about justice for others. Presumably, they have a lower threshold for perceiving themselves as being exploited by others. This may make them suspicious, hostile, and vengeful toward other persons, and more willing to violate moral standards that they care about in principle (Gollwitzer et al., 2005, 2009; Gollwitzer & Rothmund, 2009). Interestingly, similar paradoxical phenomena have been found in research on belief in a just world (Hafer & Bègue, 2005; Lerner, 1980; Maes, 1998).

A further goal of this article was to investigate differences in justice sensitivity between demographic groups. Although in our results these differences tended to be small, they can help us to develop hypotheses about the causes of individual differences in justice sensitivity. First, women were more justice sensitive compared to men. This difference may reflect women's elevated emotional vulnerability (victim sensitivity), their greater concern for the wellbeing of others (observer sensitivity), their nondemanding attitude toward issues of deserving, and their lower aggressiveness (Alfermann, 2005). This interpretation is speculative, of course. It may also be the case, for instance, that women are more victim sensitive than men because they are disadvantaged compared to men in many life domains such as the workforce (Crosby, 1982). Second, victim sensitivity decreased with age. Again, the causes for this trend may be manifold. Possibly, people become more tolerant toward injustice with increasing age because they compromise between justice and other goals that are at odds with justice. For instance, unfair pay may become less important with increasing age than having a job that guarantees a reliable income. Moreover, caring for others becomes more important with increasing age and this may reduce people's self-related concerns. In line with this reasoning, neuroticism—to which victim sensitivity is uniquely related—has also been found to decrease with age (Roberts, Walton, & Viechtbauer, 2006).

Furthermore, employment status was related to victim sensitivity alone. It seems plausible to attribute this specific difference to frequent feelings of relative deprivation of individuals who have no work or regular income. The same reason may explain why East Germans were found to be more victim sensitive than West Germans. Many studies have shown that after the German reunification in 1990, East Germans adopted the living conditions in West Germany as a standard of entitlement. Yet even 20 years after the reunification, the standard of living has continued to be lower in East Germany than in West Germany. Many East Germans feel relatively deprived and resent the East–West gap in income, career options, and other life quality domains (Mummendey, Kessler, Klink, & Mielke, 1999; Schmitt & Montada, 1999). This analysis cannot explain, however, why East Germans also score higher than West Germans on observer, beneficiary, and perpetrator

sensitivity. Possibly, the historical change of group membership has made East Germans more sensitive to social inequalities and, thus, more sensitive not only from the perspective of a relatively disadvantaged group compared to West Germans, but also as observers of injustice, as beneficiaries, and as potential perpetrators. An alternative explanation can be provided by differences in socialization that remain even after the reunification and that may be reflected by the higher degree of interdependence that has been reported among East compared to West Germans. As research has shown, interdependence tends to be positively correlated with justice sensitivity (Gollwitzer & Bücklein, 2007).

A monotonic positive correlation was found between education and perpetrator sensitivity. Again, the causes for this relationship may be manifold. Perpetrator sensitivity may contribute to academic success with students low on perpetrator sensitivity initiating social conflicts more often than students high on perpetrator sensitivity. This may affect teachers' opinions about the students, including their academic talent. It is also possible to assume that low academic success promotes frustration and, in turn, increases a person's willingness to acquire resources via illegitimate means. Engaging in illegitimate means for desirable ends may eventually lower a person's threshold for committing injustice. Finally, education and perpetrator sensitivity may have a third variable in common, such as intelligence. Perpetrator sensitivity may be linked more closely to moral judgment competence than the remaining sensitivity components, and moral judgment contains cognitive competence (Kohlberg, 1981).

Finally, singles reported more justice sensitivity than married, divorced, or widowed individuals. Again, this pattern stimulates hypotheses about its causes. Being single is not always the result of a voluntary decision. Some people are single because they do not attract potential partners. Physical attractiveness is distributed unequally and is only partially controllable via diet and exercising. People who are unattractive due to uncontrollable factors may feel unfairly disadvantaged by fate and this may promote their victim sensitivity (Gollwitzer et al., 2005).

Clearly, these speculative interpretations call for future research. Although progress has been made in understanding the psychology of justice sensitivity, quite a few questions remain to be investigated. From a psychological assessment perspective, we consider it most urgent to submit the perpetrator sensitivity scale to additional validity checks and to provide more systematic differentiation between beneficiary sensitivity and perpetrator sensitivity. Although the results reported here suggest that the sensitivities can be distinguished reliably, additional studies are needed that test whether different justice sensitivity perspectives have distinct effects on different kinds of behavior. For example, tempting situations differ in whether they facilitate actively taking advantage of another party, or rather, refraining from returning an undeserved advantage that was obtained without an active contribution of the beneficiary. The first type of behavior should depend more strongly on perpetrator sensitivity, whereas beneficiary sensitivity should have a stronger effect on the second type of behavior.

Also, cultural differences in justice sensitivity have not yet been explored systematically. One of several assumptions that seem worth investigating is that beneficiary sensitivity differs between egalitarian versus meritocratic cultures. This can be expected because it is easier for privileged members of a meritocratic society compared to members of an egalitarian society to justify any advantages they may have (Chen & Tyler, 2001; Wegener & Liebig, 1995). These and many additional questions require the valid measurement of justice sensitivity. Together with results from previous studies, the present research substantiates the usefulness of our Justice Sensitivity Inventory for that purpose.

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Appendix

How Do You React in Unfair Situations?

People react quite differently in unfair situations. How about you? First, we will look at situations to the advantage of others and to your *own disadvantage*.

		Not at all					Exactly
1	It bothers me when others receive something that ought to be mine	0	1	2	3	4	5
2	It makes me angry when others receive a reward that I have earned	0	1	2	3	4	5
3	I cannot easily bear it when others profit unilaterally from me	0	1	2	3	4	5
4	It takes me a long time to forget when I have to fix others' carelessness	0	1	2	3	4	5
5	It gets me down when I get fewer opportunities than others to develop my skills	0	1	2	3	4	5
6	It makes me angry when others are undeservingly better off than me	0	1	2	3	4	5
7	It worries me when I have to work hard for things that come easily to others	0	1	2	3	4	5
8	I ruminate for a long time when other people are treated better than me	0	1	2	3	4	5
9	It burdens me to be criticized for things that are overlooked with others	0	1	2	3	4	5
10	It makes me angry when I am treated worse than others	0	1	2	3	4	5

Now, we will look at situations in which you notice or learn that *someone else* is being treated unfairly, put at a disadvantage, or used.

		Not at all					Exactly
11	It bothers me when someone gets something they don't deserve	0	1	2	3	4	5
12	I am upset when someone does not get a reward he/she has earned	0	1	2	3	4	5
13	I cannot easily bear it when someone unilaterally profits from others	0	1	2	3	4	5
14	It takes me a long time to forget when someone else has to fix others' carelessness	0	1	2	3	4	5
15	It disturbs me when someone receives fewer opportunities to develop his/her skills than others	0	1	2	3	4	5
16	I am upset when someone is undeservingly worse off than others	0	1	2	3	4	5
17	It worries me when someone has to work hard for things that come easily to others	0	1	2	3	4	5
18	I ruminate for a long time when someone is treated nicer than others for no reason	0	1	2	3	4	5
19	It gets me down to see someone criticized for things that are overlooked with others	0	1	2	3	4	5
20	I am upset when someone is treated worse than others	0	1	2	3	4	5

Now, we will look at situations that turn out to *your advantage* and to the disadvantage of others.

		Not at all					Exactly
21	It disturbs me when I receive what others ought to have	0	1	2	3	4	5
22	I have a bad conscience when I receive a reward that someone else has earned	0	1	2	3	4	5
23	I cannot easily bear it to unilaterally profit from others	0	1	2	3	4	5
24	It takes me a long time to forget when others have to fix my carelessness	0	1	2	3	4	5
25	It disturbs me when I receive more opportunities than others to develop my skills	0	1	2	3	4	5
26	I feel guilty when I am better off than others for no reason	0	1	2	3	4	5
27	It bothers me when things come easily to me that others have to work hard for	0	1	2	3	4	5
28	I ruminate for a long time about being treated nicer than others for no reason	0	1	2	3	4	5
29	It bothers me when someone tolerates things with me that other people are being criticized for	0	1	2	3	4	5
30	I feel guilty when I receive better treatment than others	0	1	2	3	4	5

Finally, we will look at situations in which *you treat someone else unfairly*, discriminate against someone, or exploit someone.

		Not at all					Exactly
31	It gets me down when I take something from someone else that I don't deserve	0	1	2	3	4	5
32	I have a bad conscience when I deny someone the acknowledgment he or she deserves	0	1	2	3	4	5
33	I cannot stand the feeling of exploiting someone	0	1	2	3	4	5
34	It takes me a long time to forget when I allow myself to be careless at the expense of someone else	0	1	2	3	4	5
35	It disturbs me when I take away from someone else the possibility of developing his or her potential	0	1	2	3	4	5
36	I feel guilty when I enrich myself at the cost of others	0	1	2	3	4	5
37	It bothers me when I use tricks to achieve something while others have to struggle for it	0	1	2	3	4	5
38	I ruminate for a long time when I treat someone less friendly than others without a reason	0	1	2	3	4	5
39	I have a bad conscience when I criticize someone for things I tolerate in others	0	1	2	3	4	5
40	I feel guilty when I treat someone worse than others	0	1	2	3	4	5

Note: Items 1 through 10 measure victim sensitivity, 11 through 20 measure observer sensitivity, 21 through 30 measure beneficiary sensitivity, and 31 through 40 measure perpetrator sensitivity. Based on feedback from English native speakers, the wording of the victim, observer, and beneficiary sensitivity items was changed slightly compared to Schmitt et al. (2005). Results are not affected by these changes because all data reported here were collected with the original German version of the Justice Sensitivity Inventory, which has remained constant in wording across all samples included in the present analyses.

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