Test of the Construct and Criteria Validity of a German measure of Organizational Justice

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Summary

Organizational justice is a well-known and increasingly often measured construct in work-related psychological research, for which, however, different kinds of measures are used. Colquitt (2001) developed a four-dimensional measure of organizational justice to allow for the comparison of different studies. Two studies provide evidence for the construct (Study 1) and criteria validity (Study 2) of the German version of the Colquitt measure with regard to perceived supervisor behavior as well as employees’ attitudes and intentions. In Study 1 the measure demonstrated construct validity using a German sample of employees ($N = 227$) from different companies: Each dimension correlated differently with work-related dimension of supervisor behavior. To demonstrate criteria validity in Study 2 ($N = 315$ employees) the justice measure predicted different, theoretically linked work-related employee behaviors or attitudes (i.e. intentions to leave, job satisfaction, job stress, individual organizational citizenship behavior). Results are discussed with regard to theoretical and practical implications, intercultural differences and future research.

Keywords

Organizational justice - fairness - measure - validity
Test of the Construct and Criteria Validity of a German measure of Organizational Justice

All around the world people care about justice. This can be observed in several situations: They respond positively to fair treatment and negatively to unfair treatment. Accordingly, organizational justice, referring to efforts to explain the effects of justice in organizations, has become an established work-related situational factor (Folger & Cropanzano, 1998; Greenberg, 1996; Greenberg & Colquitt, 2005). Research has demonstrated strong effects of organizational justice on different attitudes and behaviors such as job satisfaction, organizational commitment, trust, job performance, spontaneous cooperation, and organizational citizenship behavior (for overviews, see Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter & Ng, 2001; Greenberg, 1990; Lind & Tyler, 1988). Moreover, perceived unfairness leads to negative reactions such as withdrawal, absenteeism, theft, tardiness, resistance to change, and retaliatory behavior. Therefore, organizational justice is an import issue for both organizations and employees that requires valid and reliable measurement.

Dimensions of Justice

During the course of research there has been continuous discussion whether justice is best described in one-, two-, three-, or four-factor conceptualizations (for overviews, see: Cohen-Charash & Spector, 2001; Colquitt, 2001; Colquitt et al., 2001; Greenberg & Colquitt, 2005). However, the first psychological studies on justice focused on distributive justice. It was found that a fair distribution within allocation processes is established when outcomes comply with internal norms such as equity (Adams, 1965), equality, or need (Deutsch, 1975; Leventhal, 1976). Subsequent research examined the processes that lead to decision outcomes referred to as procedural justice (Thibaut & Walker, 1975). There are different conceptualizations of procedural justice, defining a fair process by either the influence on the outcome (Thibaut & Walker, 1975), or the application of different criteria such as voice,
consistency, neutrality, and representation of opinions (Leventhal, 1980; Tyler, 2000). Bies and Moag (1986) introduced interactional justice as a third dimension of justice. It is defined as the interactional treatment people receive during procedures (e.g. respect, thorough explanation). Later on interactional justice has been divided into two separate factors: interpersonal justice and informational justice (Greenberg, 1993). The former is defined as the respectful, polite, and dignified treatment of people by decision-makers. The latter reflects the quality and quantity of information on the decision process given to people in terms of accurate, timely and reasonable explanations.

**Measurement of Organizational Justice**

Meta-analytical research has shown that different dimensions of organizational justice are related to different outcomes (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). For example, procedural justice is most closely related to job performance and counterproductive work behavior, distributive justice to pay satisfaction, interpersonal justice to supervisor satisfaction and leader member exchange, and informational justice to trust. In this context Greenberg (1990) stressed a major problem of previous research: Most studies only used single items, which had been formulated for that particular study, to measure organizational justice and failed to report construct validity. However, to understand the impact of organizational justice it is important to have a standardized measure that distinguishes between the different dimensions of organizational justice. Despite its theoretical and practical importance, knowledge about both the factor structure of organizational justice and the valid measurement thereof has so far been vague.

To address this deficit, Colquitt (2001) generated 20 items for a four-factor justice measure distinguishing distributive, procedural, interpersonal, and informational justice. Colquitt formulated the items building on some elementary work on organizational justice (Bies & Moag, 1986; Leventhal, 1976, 1980; Shapiro, Buttner & Barry, 1994; Thibaut &
Walker, 1975). The resulting measure assesses the perception of justice criteria such as voice, accuracy of information, respectful treatment, and thorough explanations. In the sense of Lind and Tyler (1988) this is an indirect measurement instrument, because criteria leading to perceptions of justice and not direct perceptions of fairness are assessed. Moreover, the measure can be adapted to fit specific contexts (e.g. the organization, the supervisor, the last appraisal interview) by changing the focus of the questions. On the one hand, the possibility to change the focus is essential to adopt the measure to the specific need of different research questions and contexts, and represents an advantage of the Colquitt measure. On the other hand, the intercorrelations between the four dimensions of justice as well as the predictive validity of the single dimensions on specific outcome variables should vary depending on the chosen focus. This problem has not been addressed so far in detail. However, confirmatory factor analysis of both a student (focus: instructors of university courses and their grading) and an employee sample (focus: employees supervisors and their decision making) found the four-factor model (distributive, procedural, interpersonal and informational justice) to be the better fitting model of organizational justice in comparison to one-, two- and three-factor models. These findings were replicated both with an U.S.-American (Judge & Colquitt, 2004) and a German sample (Maier, Streicher, Jonas & Woschée, 2007).

Moreover, demonstrating construct validity Colquitt (2001) showed that distributive justice is related to person-centered outcomes such as outcome satisfaction and instrumentality. Procedural justice is linked to identification related outcomes such as rule compliance and group commitment. Interpersonal justice is linked to extra role behavior by the employee in exchange for fair treatment by the supervisor and, therefore, to outcomes such as leader evaluation and helping behavior. Following meta-analytic research (Colquitt et al., 2001) informational justice is linked to trust in the group and to outcomes such as collective esteem. In both the student and the employee sample structural equation modeling revealed good
German measure of organizational justice 6

model fit in accordance with the predicted paths from the organizational justice factors to the relevant outcomes (Colquitt, 2001).

However, due to potential cross-cultural differences the same factor structure in the U.S.-American and German samples does not imply validity for the German measure. Indeed, there are substantial differences between the U.S. and Germany concerning, for instance, the labor law and the influence and importance of the unions. Whereas it is comparatively easy to terminate work contracts in the U.S., it is much more difficult in Germany. On the other hand, U.S. law facilitates suing supervisors and companies for sexual or racial harassments, whereas such lawsuits in Germany are rare and compensation is low. Differences like these could result in different standards of fairness and, therefore, influence the perception of organizational justice and outcomes related to it. This means that the construct and criteria validity of the German version of the Colquitt measure has yet to be established, with respect to conditions for perceptions of justice and with respect to outcome criteria like attitudes and intentions of employees.

A confirmation of the four dimension structure and a first support for the construct validity of the German version of these instruments showed, that the justice scales are significantly related to proximal (i.e., satisfaction with participation, pay, leader, and communication with the leader) and distal criteria (i.e., leader-member-exchange, organizational commitment) of the organizational justice dimensions (Maier et al., 2007). Since this study only examined two distal criteria and partly used procedures and analysis different from the original, results remain difficult to compare. Moreover, further empirical research has focused on the predictive validity for procedural and distributive justice on specific outcome variables (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). However, there is less research on the impact of interactional / interpersonal justice and even less on the impact of informational justice. The activation of different justice dimensions is sensitive to
contexts (cf. Cropanzano & Ambrose, 2001). In order to shed some light on the importance of informational justice in specific situations, and to point out the importance of a multi-dimensional justice measure, we chose the last appraisal interview as a focus for the justice questionnaire in both studies. We assumed that information is an important part of appraisal interviews, and therefore, informational justice should play a dominant role.

**Study 1**

The aim of this first study was to test the construct validity of a German translation of the Colquitt measure of organizational justice. To obtain comparable results to the Colquitt study (2001), we used procedures, measures, and model testing analogous to the original. We hypothesized that each factor of organizational justice should be significantly related to comparable measures of conditions for perceptions of organizational justice. These scales were chosen to fulfill the following criteria (cf. Colquitt, 2001): (1) The scales should be relevant to the field of the study (i.e. work-related in our study). (2) The scales should have already been examined within the field of organizational research. Since we used a different sample (i.e. employees from different companies) as Colquitt (i.e. students and teams from two plants respectively), we could not use the exact same outcome variables as the original study. Therefore, we referred to meta-analytical results on the outcomes of organizational justice as the basis for our selections (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). (3) The scales should be comparable to the ones used by Colquitt.

We chose *instrumentality* as an associated variable for distributive justice. Instrumentality is linked to the expectation of receiving adequate outcomes for one’s performance (Deutsch, 1985). The supervisor acts as an agent to acknowledge employees’ performance and to provide corresponding rewards. In terms of justice theory, the supervisor can establish fair outcomes by applying equity-rules (Adams, 1965). Therefore, outcome satisfaction is connected with distributive justice (Colquitt et al, 2001). *Participation* was
selected as an associated variable for procedural justice. If supervisors behave procedurally fair, they give their employees the possibility to voice their opinion. This should lead to the employees’ perception of being able to participate (Tyler, 2000). Research has shown that participation (“voice”) is related to procedural justice (Tyler, 2000; Tyler & Blader, 2000; Tyler & Degoe, 1995). *Friendliness* was taken as an associated variable for interpersonal justice. Friendly and respectful behavior by supervisors towards employees is connected with interpersonal justice (Greenberg, 1993). A supervisor who is interpersonally fair should be rated as friendly and respectful by his/her employees. *Communication* was selected as an associated variable for informational justice. Good communication includes the sharing of information and the disclosure of secrecy. This behavior is related to informational justice (Greenberg, 1993). Perceptions of the instrumentality between employee behavior and rewards (i.e. application of equity-rules), of participations within ones work group, of the friendliness of one’s supervisor, and of the quality of one’s leaders communication behavior are conditions of perceived organizational justice.

**Materials and Methods**

**Participants**

Participants were approached in companies and public transport. On average they had worked in their company for about 7.68 years ($SD = 7.17$). They all had a supervisor and were recruited as volunteers from a range of different companies. Branches comprised services (55 persons, 24.2 %), healthcare and welfare (26 persons, 11.5 %), manufacturing industry (24 persons, 10.6 %), banking and insurance industry (19 persons, 8.4 %), education and tuition (29 persons, 12.8 %), and other sectors (74 persons, 32.5 %). Prior to analysis participants with more than 30% of missing values were excluded from the data file. The remaining maximum percentage of missing values in a single variable was 5.73%. Missing values of the remaining participants were imputed using expectation-maximization algorithm (EMA) by the Software
Norm (Version 2.03) leaving 227 employees (age: $M = 36.71$, $SD = 9.66$; 98 female, 129 male) for analysis.

**Measures**

*Organizational Justice.* Participants completed a German version (Maier et al., 2007) of the organizational justice scale (Colquitt, 2001). The questionnaire comprised 20 items with four items measuring the dimension distributive justice, seven items measuring procedural justice, four items measuring interpersonal justice, and five items measuring informational justice. For the dimension distributive justice the questions focused on pay and further corporate benefits such as bonuses. For the dimensions procedural, interpersonal and informational justice the questions were related to the last appraisal interview that the supervisor had conducted with the participants.

*Instrumentality* was measured with three items adopted from Colquitt (2001) (e.g. “For good teamwork I usually get rewarded.”). The items were translated into German, retranslated into English, compared with the original version and adjusted accordingly (cf. Van de Vijver & Hambleton, 1996). *Participation* was measured using the scale “participation” taken from an instrument for evaluating stress at the workplace (Semmer, Zapf & Dunckel, 1995, 1999) (7 items; e.g. “My supervisor allows me the freedom to arrange my workspace as I like.”). This subscale evaluates the possibilities to arrange or influence different aspects of work (e.g. working hours, workplace design, holiday schedules). *Friendliness* was assessed with the scale “friendly devotion/respectfulness” from the questionnaire on supervisor behavior description (Fittkau-Garthe & Fittkau, 1971), which is a German adaptation of the supervisory behavior description questionnaire (SBDQ, e.g. Allen, 1995) (12 items; e.g. “My supervisor treats his employees as equal partners.”). For the measurement of *communication* the subscale “information sharing” from the team climate inventory (TCI; Anderson & West, 1996; German version by Brodbeck, Anderson & West, 2000) was adapted and reformulated (3 items; e.g.
“My supervisor generally shares information with the team rather than keeping it to himself/herself.”). All variables were rated on 5-point scales (1 = not at all to 5 = very much).

Data Analysis

The procedures we used measured the four dimensions of organizational justice and four established scales, which were related to conditions for perceptions of organizational justice. These variables were instrumentality, participation, friendliness, and communication. To test our hypothesis we introduced all elements to a structural model. The model comprised only theoretically expected paths and was conducted in accordance with the original study by Colquitt (2001) (cf. Figure 1). Structural equation modeling was conducted using AMOS 6 (Arbuckle, 2005) with the maximum likelihood method. Due to the relatively low number of participants (N = 227) we used parceling for any scale with more than two items to improve the item-to-sample-ratio. Both the odd- and even-numbered items of each scale were merged into one parcel each, resulting in two parcels for each construct. The mean value for each parcel was calculated and used for further analysis. To verify the fit of our model, we used Goodness of Fit (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker Lewis Index (TLI) and Root Mean Squared Error of Approximation (RMSEA) as test statistics. As a combined rule for the acceptance of our model we chose the following values: GFI, CFI, IFI and TLI > .90 (Bentler & Bonett, 1980), and RMSEA < .08 (Browne & Cudeck, 1993). The selected fit indicators enable comparison with the U.S.-American original, even though no values for the GFI and TLI are reported there (Colquitt, 2001).

Results and Discussion

Table 1 presents means, standard deviations, correlations and internal consistency reliabilities for the organizational justice (distributive, procedural, interpersonal, informational), instrumentality, participation, friendliness, and communication scales. Internal consistency was examined using Cronbach’s coefficient $\alpha$ estimate of reliability, which is
within the same range as reported by Colquitt (2001; \( \alpha = .79 \) to \( .93 \)) for the organizational justice scales.

--- Please insert Table 1 about here ---

**Construct Validity**

Our model provides an acceptable fit to the data, \( \chi^2 (94, N = 227) = 243.07, p < .001, \chi^2/df = 2.59, \text{GFI} = .887, \text{CFI} = .941, \text{IFI} = .942, \text{TLI} = .925, \text{RMSEA} = .084 (.071, .097)^2 \) and yields akin fit-indices compared to the U.S.-American employee sample (Colquitt, 2001): \( \chi^2 (424, N = 337) = 1062.88, \chi^2/df = 2.52, \text{CFI} = .91, \text{IFI} = .91, \text{RMSEA} = .067 (.062, .072). \) The model is shown in Figure 1. All path coefficients, factor loadings, and covariances (beside the covariance between distributive and interpersonal justice, \( p < .07 \)) among the justice latent variables were statistically significant, \( p < .01 \). The results support our hypothesis, that each factor of organizational justice should be significantly related to comparable measures of conditions for perceptions of organizational justice. Moreover, to fully test if paths from one justice scale to any other different construct (e.g. distributive justice \( \rightarrow \) participation) would lead to a significant better fit of our intended model, we both conducted nested model comparisons and calculated modification indices in AMOS. Results suggest that the fit of the model could not be significantly improved by adding further paths, for all \( \Delta \chi^2, p > .05. \) Therefore, our results suggest adequate discriminant validity compared to the original version and support the four-factor structure of organizational justice. The division into four distinct dimensions is supported by the fact that each organizational justice factor is related to a different associated variable of conditions for perceptions of organizational justice.

--- Please insert Figure 1 about here ---

The results of Study 1 demonstrate construct validity and are comparable to the original Study 1 by Colquitt (2001), in which procedural justice showed high correlations with...
the outcome variable of interpersonal justice as well. Nevertheless, our results do not
demonstrate criteria validity to a satisfactory degree, because the associated constructs we used
are not outcomes in a narrower sense. They do not represent reactions of employees, but work-
related perceptions of supervisor behavior that represent preconditions of perceived
organizational justice.

Study 2

In Study 2 we wanted to test the criteria validity of the justice scale by predicting
different outcomes in terms of employee attitudes or behaviors as reactions to conditions of
organizational justice. According to Colquitt (2001), the four dimensions of organizational
justice should be predictive of work-related employee attitude or behavior. We hypothesized
that the factors of organizational justice should significantly correlate with different measures
of employee reaction. The outcome scales were chosen to fulfill the same criteria as in Study 1
(cf. Colquitt, 2001). Furthermore, the variables were intended to be different from the ones
used by Colquitt where possible to prove generalizability.

We chose intention to leave, job satisfaction, job stress, and individual organizational
citizenship behavior (OCB-I; Williams & Anderson, 1991) as outcome variables. In meta-
analytic research intention to leave in terms of withdrawal (Colquitt et al., 2001) and turnover
intentions (Cohen-Charash & Spector, 2001) showed high negative correlations with
distributive justice, high to moderate correlations with procedural justice, and low correlations
with interpersonal and informational justice. Furthermore, empirical research demonstrated
that intentions to leave are negatively correlated with pay satisfaction, which is highly
correlated with distributive justice (e.g. DeConinck & Stilwell, 2004). Job satisfaction shows
high correlations with distributive and procedural justice, and moderate correlations with
interpersonal and informational justice (Colquitt et al., 2001). Procedural as well as
interpersonal justice has shown to be related to stress perception (Judge & Colquitt, 2004) and
stress related symptoms such as sleeping problems (Elovainio, Kivimaki, Vahtera, Keltikangas-Järvinen & Virtanen, 2003). While procedural injustice is hypothesized to be a stressor when situations are uncertain (Lind & Van den Bos, 2002), interpersonal injustice (e.g., lack of leader support, inconsiderate actions, abusive words, coercion) is considered a main stressor in the immediate leader-employee-interaction (Bies, 2001). Consistent with relational models (e.g. Tyler & Lind, 1992) meta-analytic research (Colquitt et al. 2001) showed that OCB-I, which is OCB related to supervisor behavior in contrast to treatment by the organization as a whole, correlated with interpersonal and informational justice. Furthermore, we argue that fair supervisor behavior should result in corresponding employee behavior (e.g. giving early notice of absence). To sum up, the four dimensions of organizational justice are doubtlessly related to the mentioned outcome variables. Therefore, it should be investigated, which dimension of justice predicts a specific amount of variance of each criterion while considering all dimensions of justice.

Materials and Methods

Participants

Participants, who were approached via mail, had worked for their company for an average of 13.18 years ($SD = 9.83$). They were recruited as volunteers from a range of different companies. Branches comprised mainly power and water supply (181 persons, 57.5 %), banking and insurance industry (63 persons, 20.0 %), and other sectors (71 persons, 22.5 %). Prior to analysis participants with more than 30% of missing values were excluded from the data file. The remaining maximum percentage of missing values in a single variable was 8.71%. Missing values were imputed using EMA by the Software Norm (Version 2.03) leaving 315 (99 female, 216 male) for analysis.

Measures

Organizational Justice. Participants completed a German version (Maier et al., 2007)
of the organizational justice scale (Colquitt, 2001). As in Study 1, the questions were related to
the last appraisal interview. *Intention to leave* was measured with three items adopted from
Blau (1989) (e.g. “I intend to quit my current job.”). *Job satisfaction* was measured using the
Neuberger and Allerbeck scale (1978) (7 items; e.g. “How satisfied are you with your job.”).
*Job stress* was assessed with a reformulated version of the scale by Sosik and Godshalk (2000)
(8 items; e.g. “My job puts me under a lot of pressure.”). *OCB-I* was measured with four items
taken from an OCB instrument (Turnley, Bolino, Lester & Bloodgood, 2003) (e.g. “I always
give advance notice when I am unable to come at work.”). All variables were rated on 7-point
scales (1 = *not at all* to 7 = *very much*).

**Results and Discussion**

Table 2 presents means, standard deviations, correlations and internal consistency
reliabilities for the organizational justice (distributive, procedural, interpersonal,
informational), intention to leave, job satisfaction, job stress, and OCB-I. Internal consistency
was examined using Cronbach’s coefficient $\alpha$ estimate of reliability, which is marginally better
than the range reported by Colquitt (2001; $\alpha = .78$ to .93) for the organizational justice scales.

--------- Please insert Table 2 about here ---------

To test our hypothesis, we used the following regression approach (see Table 3): In
four separate analyses, ratings of intention to leave, job satisfaction, job stress, and OCB-I
were used as dependent variables, and all four dimensions of organizational justice were
entered into the regression equation.

--------- Please insert Table 3 about here ---------

As can be seen in Table 3, all four dimensions of organizational justice significantly
predicted every dependent variable. Within organizational justice the subscale for
informational justice was the most potent predictor. As outlined earlier, this can be explained

by the focus of the organizational justice measure on the last appraisal interview and the importance of accurate information for employees in this context.

Discussion

The present article provides further evidence that the German version of the organizational justice measure by Colquitt (2001) is a valid measure of self-reported perception of organizational justice in the context of appraisal interviews. Since intercultural and legal differences between the U.S.A. and Germany might influence the understanding and perception of fairness, it was important to not only provide support for the factor structure of the measure, but also to check the validity in different contexts (here: appraisal interview). We found intercultural convergence for the construct and criteria validity of the German version compared to the U.S.-American original. The results of Study 1 demonstrate construct validity analogous to Colquitt (2001) by significantly relating comparable measures of conditions for perceptions of organizational justice to each justice factor. The results of Study 2 show criteria validity by predicting relevant outcomes of organizational justice. Additionally, in our chosen context (last appraisal interview) informational justice was the most important predictor within the four dimensions of justice. Furthermore, the outcomes were partially different from the ones used by Colquitt (2001), which provides additional support for the construct validity of the measure.

Our demonstration of the construct as well as the criteria validity of the adapted measure with German samples indicates the universality and, therefore, the importance of organizational justice. A reliable and valid measure of organizational justice is necessary for two reasons: First, it is essential to have an adequate measure to control for the effect of interventions such as leadership trainings in fairness (Skarlicki & Latham, 2005) as well as of related variables such as commitment or identification (Tyler & Blader, 2000). Second, the wide distribution and application of a measure makes the outcomes of different studies
comparable, which, in turn, deepens our understanding of the effects of organizational justice (Colquitt, 2001). This is of particular importance for a globalizing economy and companies operating worldwide.

Although all the predicted correlations in Study 1 were significant, the correlation between procedural justice and participation was comparatively small (.42 for the latent variable, .35 for the scales) considering the similarity between the two constructs. Maybe supervisors gave less opportunity for voice and participation during appraisal interviews than they would give in daily work. The correlation between procedural justice and participation might improve by shifting the focus of the questions of the justice measure from the last appraisal interview to supervisor behavior in general. An alternative explanation could be that procedural justice judgments are based on the perception of fair procedures in the organization in general, whereas opportunities to participate are linked to supervisor behavior. However, in the sample of employees, as reported by Colquitt (2001, Study 2), correlations for latent variables between the four dimensions of justice and their associated outcomes ranged from $r = .23$ to $r = .46$. This implies that our results are still within the range of the original study.

Our data of Study 2 did not provide evidence for discriminant validity to a satisfying degree. To test discriminant validity every dimension of organizational justice should predict a specific, theoretically linked outcome (e.g. employee attitude or behavior), which is difficult to achieve in our chosen context (i.e. appraisal interview). Nevertheless, our results make an important contribution to prior research: The most prominent distinction of justice dimensions in organizational justice research is between distributive and procedural justice (Ambrose & Arnaud, 2005). At least for one decisional occasion (here: appraisal interview) our results strongly demonstrate the importance of an additional dimension of justice, i.e. informational justice. Furthermore, Maier et al. (2007) demonstrated discriminant validity for all four dimensions of justice with regard to leader-member exchange (LMX; Graen & Scandura,
However, to our knowledge so far no study has addressed either the question of predictive validity in a longitudinal survey, or the question of content validity by, for example, correlating observed supervisor justice behavior and employee self-reported justice perception, or examined the re-test reliability. Future research should address these questions.

The results of our studies are limited to employees of commercial companies and public services, and the perception of the last performance appraisal by their supervisor. Since the activation of justice dimensions is sensitive to contexts (cf. Cropanzano & Ambrose, 2001), future research should validate the measure in the field both with different samples (e.g. non-profit organizations) and different foci (e.g. organizational justice climate, the team, the department), and in the laboratory by manipulating the different dimensions of fairness. Concerning our research we would predict different incremental validity between different foci or contexts while using the same outcome measures. Colquitt (2001) avoided this complex by using different outcome measures for different foci.

The German version of the Colquitt (2001) questionnaire is a valid and economic measure of organizational justice. Its focus can easily be adjusted to different contexts such as the organization in general, the team, or the supervisor. Furthermore, the results of different studies within the same context become comparable when this measure is used, which will increase our understanding of the effects and mediating mechanisms of organizational justice.

Acknowledgments

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Footnotes

1 For a detailed item list of the German version please see Maier et al. (2007); for the English original see Colqitt (2001).
Some of the items of the scales for instrumentality, friendliness, and communication seemed to be semantically close to items of the corresponding justice scales (e.g. distributive justice “Does your outcome reflect the effort you have put into your work?” vs. instrumentality “I see a clear link between my performance and the rewards I receive.”). Therefore, in a first step we conducted all analyses without the semantically close items ($\chi^2 (94, N = 227) = 254.45, p < .001, \chi^2/df = 2.71, \text{GFI} = .882, \text{CFI} = .933, \text{IFI} = .934, \text{TLI} = .915, \text{RMSEA} = .087 (.074, .100)$) and compared results to analyses with all items. Because results differed only marginally, we decided to keep all items for analyses.

References


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Table 1

Means, standard deviations, correlations and reliabilities of the measures in Study 1

<table>
<thead>
<tr>
<th>Construct</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td>1. Distributive justice</td>
<td>3.26</td>
<td>0.90</td>
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<tr>
<td>2. Procedural justice</td>
<td>3.41</td>
<td>0.74</td>
<td>0.28</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Interpersonal justice</td>
<td>4.30</td>
<td>0.77</td>
<td>0.14</td>
<td>0.61</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Informational justice</td>
<td>3.56</td>
<td>0.91</td>
<td>0.21</td>
<td>0.72</td>
<td>0.51</td>
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<tr>
<td>5. Instrumentality</td>
<td>2.72</td>
<td>1.08</td>
<td>0.53</td>
<td>0.25</td>
<td>0.21</td>
<td>0.26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Participation</td>
<td>3.57</td>
<td>0.84</td>
<td>0.16</td>
<td>0.35</td>
<td>0.30</td>
<td>0.22</td>
<td>0.24</td>
<td></td>
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</tr>
<tr>
<td>7. Friendliness</td>
<td>4.00</td>
<td>0.79</td>
<td>0.05</td>
<td>0.49</td>
<td>0.60</td>
<td>0.52</td>
<td>0.11</td>
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<tr>
<td>8. Communication</td>
<td>3.72</td>
<td>1.05</td>
<td>0.14</td>
<td>0.43</td>
<td>0.36</td>
<td>0.56</td>
<td>0.23</td>
<td>0.24</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Note:

N = 227. Reliabilities (Cronbach’s α) are on the diagonal. Correlations greater than .13 are significant on the .05 level; correlations greater than .20 on the .01 level; correlations greater than .22 on the .001 level.
Table 2

Means, standard deviations, correlations and reliabilities of the measures in Study 2

<table>
<thead>
<tr>
<th>Construct</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distributive justice</td>
<td>5.15</td>
<td>1.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Procedural justice</td>
<td>5.28</td>
<td>1.04</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Interpersonal justice</td>
<td>6.26</td>
<td>1.03</td>
<td>.49</td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Informational justice</td>
<td>5.32</td>
<td>1.21</td>
<td>.61</td>
<td>.64</td>
<td>.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Intention to leave</td>
<td>2.05</td>
<td>1.43</td>
<td>-.26</td>
<td>-.26</td>
<td>-.18</td>
<td>-.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Job satisfaction</td>
<td>4.98</td>
<td>1.05</td>
<td>.51</td>
<td>.50</td>
<td>.44</td>
<td>.53</td>
<td>-.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Job stress</td>
<td>2.81</td>
<td>1.10</td>
<td>-.30</td>
<td>-.31</td>
<td>-.21</td>
<td>-.31</td>
<td>.36</td>
<td>-.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. OCB-I</td>
<td>5.84</td>
<td>0.79</td>
<td>.11</td>
<td>.15</td>
<td>.14</td>
<td>.22</td>
<td>-.14</td>
<td>.17</td>
<td>-.18</td>
<td></td>
</tr>
</tbody>
</table>

Note:

\( N = 315 \). OCB-I = organizational citizenship behavior: individual referenced. Reliabilities (Cronbach’s \( \alpha \)) are on the diagonal. Correlations greater than |.13| are significant on the .05 level; correlations equal to or greater than |.15| on the .01 level; correlations greater than |.20| on the .001 level.
Table 3
Hierarchical regression of dimensions of organizational justice on employee attitudes and behavior in Study 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>$F(4, 310)$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$F(4, 310)$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV = Intention to leave</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational justice</td>
<td>.108</td>
<td>9.42***</td>
<td>-.02</td>
<td>.359</td>
<td>43.33***</td>
<td>.22**</td>
</tr>
<tr>
<td>Distributive justice</td>
<td>-.02</td>
<td>.22**</td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural justice</td>
<td>-.10</td>
<td>.11</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal justice</td>
<td>-.04</td>
<td>.13*</td>
<td>.13*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational justice</td>
<td>-.26**</td>
<td>.25***</td>
<td>.25***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DV = Job satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DV = Job stress</td>
<td>.125</td>
<td>11.07***</td>
<td>-.11</td>
<td>.053</td>
<td>4.36**</td>
<td>-.07</td>
</tr>
<tr>
<td>Distributive justice</td>
<td>-.11</td>
<td>.03</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural justice</td>
<td>-.14*</td>
<td>.02</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal justice</td>
<td>.02</td>
<td>.22**</td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informational justice</td>
<td>-.17*</td>
<td>.22**</td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:

$N = 315$. DV = dependent variable. OCB-I = organizational citizenship behavior: individual referenced. $^p = .10$. $^* p < .05$. $^{**} p < .01$. $^{***} p < .001$. 
Figure 1.

Structural equation modeling results (standardized estimates) of Study 1. Error and disturbance terms are omitted.