

Age and Trust as Moderators in the Relation between Procedural Justice and Turnover: A Large-Scale Longitudinal Study

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The current study investigated the moderating roles of age and trust in the relation of procedural justice with turnover. It was expected that the relation between procedural justice and turnover was weaker for older workers and those with high prior trust in their leader. Older workers are better at regulating their emotions, and focus more on positive aspects of their relationships with others, and therefore react less intensely to unfair treatment. Moreover, people with high trust are more likely to attribute unfair treatment to circumstances instead of deliberate intention than people with low trust. Finally, we expected a three-way interaction between age, trust, and procedural justice in relation to turnover, where older workers with high trust would have less strong reactions than younger workers and older workers with low trust. Results from a three-wave longitudinal survey among 1,597 Dutch employees indeed revealed significant interactions between trust and procedural justice in relation to turnover. Furthermore, the three-way interaction was significant, with negative

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Thanks to Olivia Butterman for her comments on a previous draft of the paper.

relations for younger workers, but a non-significant relation was found for older workers with low trust. Contrary to expectations, negative relations were found between procedural justice and turnover for older workers with high trust.

INTRODUCTION

Due to the aging of the baby boom generation, there is an increasingly higher number of older adults on the labor market (European Commission, 2005; Kanfer & Ackerman, 2004). As a result, it is not surprising that age has become an important factor in organisational research (Kanfer & Ackerman, 2004; Sterns & Camp, 1998). For instance, recent studies have investigated how younger workers differ from older workers in their work attitudes as a consequence of their psychological contracts (Bal, De Lange, Jansen, & Van der Velde, 2008) and work motivation (Kanfer & Ackerman, 2004). An important work attitude is trust in the organisation, defined as the acceptance of vulnerability resulting from positive expectations regarding the employer (Rousseau, Sitkin, Burt, & Camerer, 1998). Research has shown that high trust may buffer the adverse effects of negative work-related events on outcomes such as absence and turnover (Chiaburu & Marinova, 2006; Robinson, 1996). However, it is not clear how older workers differ from younger workers in their reactions to negative events (Van der Heijden, Schalk, & Van Veldhoven, 2008).

One such negative event is procedural justice violation, or unfair treatment of the employee by the organisation (Aryee, Budhwar, & Chen, 2002). In general, procedural justice violation is related to higher turnover (Siers, 2007). However, because older workers have better emotion regulation skills (Gross, Carstensen, Pasupathi, Tsai, Skorpen, & Hsu, 1997) and fewer alternatives on the labor market, they will react less intensely to unfair treatment by the employer than younger workers. Moreover, trust will also buffer the negative impact of procedural justice on turnover. Trust plays a central role in monitoring and evaluation of justice at the workplace. People with low levels of trust will be more easily triggered by negative events that happen at the workplace. Consequently, justice violations may play a larger role for these people in turnover decisions (Colquitt, Scott, Judge, & Shaw, 2006; Heuer, Penrod, Hafer, & Cohn, 2002). In sum, both trust and age are potential moderators of the relation between procedural injustice and turnover. This raises the question whether the combined effects of age and trust influence the impact of injustice on turnover. In this paper we argue that trust may be especially important for older workers in their reactions to procedural justice (Wagner & Rush, 2000). With regard to procedural justice, trust in particular is expected to be more important for older workers, since the relationship with the employer has become more important for them (Bal

et al., 2008). Therefore, the moderating role of trust will be stronger for older workers than for younger workers.

To our knowledge, no study has investigated how the combined roles of age and trust affect the processes that lead from justice perceptions to employee turnover. In sum, in the current paper we focus on the interplay between age and trust as moderators of the relation between procedural justice and turnover. Based on a longitudinal study of a representative sample of the population of Dutch employees, the hypothesis was tested that age and trust moderate the relations between procedural justice and turnover.

Procedural Justice and Turnover

The organisational justice literature is largely influenced by the work of Homans (1961) and Adams (1965), who studied the concept of distributive justice. Distributive justice refers to the perceived fairness of organisational outcomes (Cohen-Charash & Spector, 2001). Building on distributive justice research, the focus shifted in the 1970s to the fairness of the process through which allocations are made. This perceived fairness of procedures used to make decisions is referred to as procedural justice (Lind & Tyler, 1988; Thibaut & Walker, 1975). It is important for employees that their organisations and their managers treat them in a way that is procedurally fair because this signals that the employees are being valued equally as members of the organisation (Posthuma, Maertz, & Dworkin, 2007; Siers, 2007). Conversely, unfair procedural treatment may enhance the feeling that employees are not valued as members of the organisation.

In the current study, justice is investigated from a climate perspective. This means that justice is conceived as the *general* perception about how employees are treated in the organisation, instead of the perception by an employee of how (s)he is treated as an individual (Naumann & Bennett, 2000). More specifically, we argue that justice climate perceptions will be related to turnover. When an employee has the feeling that (s)he is treated unfairly, (s)he might expect that this feeling will disappear with a transfer to another function or department within the same organisation (Liao & Rupp, 2005). However, when there is an unjust climate in the organisation, employees realise that transferring to another function or department in the organisation will not improve their treatment by the organisation. Therefore, they will be more likely to leave the organisation in a situation of a procedurally unjust climate. Indeed, research has shown additional explained variance of justice climate above individual justice perceptions in relation to outcomes (Liao & Rupp, 2005; Tangirala & Ramanujam, 2008). Although it can be argued that interactional justice, which emanates from the direct supervisor (Colquitt et al., 2006), might also be important in conjunction with trust, in the current

study we are particularly interested in procedural justice and we will therefore focus on justice emanating from the employer.

According to social exchange theory (Gouldner, 1960), employees expect that what the organisation offers them should be proportional to their contributions to the organisation. If the employer treats employees in a way that is procedurally unfair, this norm of reciprocity is harmed (Gouldner, 1960), leading to reactions such as decreased citizenship behaviors and increased turnover (Lavelle, Rupp, & Brockner, 2007). Previous studies have shown that low procedural justice does indeed relate to higher turnover (Aquino, Griffeth, Allen, & Hom, 1997; Griffeth, Hom, & Gaertner, 2000; Hendrix, Robbins, Miller, & Summers, 1998). Therefore, we expect that low procedural justice relates to higher turnover. The first hypothesis is:

H1: Procedural justice is negatively related to turnover in the following year.

Age and Turnover

Although the main focus of this paper is on the moderating role of age and trust on the relation between justice and turnover, we also expect that turnover will be lower among older workers compared to younger workers (Ng & Feldman, 2009; Turnley & Feldman, 1999). Older workers are more embedded within their jobs and therefore have a lower need to change jobs, and are in general more committed to their organisations than younger workers (Cohen, 1991, 1993; Feldman, 2007). Moreover, they experience more difficulties in finding new jobs because they suffer from negative stereotyping and age discrimination (Posthuma & Campion, 2009). Previous meta-analyses have found mixed results in the relation between age and turnover (Griffeth et al., 2000; Healy, Lehman, & McDaniel, 1995). For instance, Healy and colleagues (1995) found that age was not meaningfully related to turnover. However, in a recent study, Ng and Feldman (2009) argued that because of changed work environments and changing norms on job mobility, the relations between age and turnover might have changed as well in the last 20 years. Indeed, in their meta-analysis on studies published *after 1990*, they found that age was negatively related to turnover ($r = -.14$). In line with their findings, we expect that older workers have lower turnover than younger workers. The second hypothesis is:

H2: Age is negatively related to turnover.

Age as a Moderator in the Relation between Procedural Justice and Turnover

Previous research has shown that the relations between procedural justice and outcomes are moderated by individual differences (Fischer & Smith,

2006). In the current study we expect that the relation between procedural justice and turnover will differ with age. Based on notions from emotion regulation theory, it is plausible to assume age-related differences in these relations (Diamond & Aspinwall, 2003; Gross, 2001). Older workers have better emotion regulation strategies, and are better at coping with negative events than younger workers. Therefore, they react less intensely to procedural injustice. With increasing maturity, people learn to cope with their emotions, and are better at interpreting, managing, and deriving meaning from conflicting emotions (Diamond & Aspinwall, 2003, p. 135). Moreover, research shows that emotional intelligence increases with age (Kafetsios, 2004). Hence, older people are better at regulating their emotions after negative events than younger people (Carstensen, 1995; Carstensen, Fung, & Charles, 2003), and are quicker at returning to positive moods than younger people (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; John & Gross, 2004). In general, emotional reactions tend to be more intense for younger people than for older people (Gross et al., 1997).

There are some empirical investigations of this notion in the work setting. The meta-analysis of Bal and colleagues (2008) showed that after psychological contract breaches, older workers react less intensely in terms of trust in the organisation and organisational commitment. However, the relation between contract breach and job satisfaction was stronger for older workers than for younger workers. They explained that older workers focus on positive aspects of their relationship with their organisation and their leaders, and therefore are more inclined to hold positive beliefs about their organisation and their employer, even when their psychological contract has been broken. Moreover, Cohen (1991) found that the relation between organisational commitment and turnover was stronger for younger workers. Finally, other studies have found stronger reactions among younger workers as well (Pond & Geyer, 1987, 1991; Wagner & Rush, 2000).

In addition to emotion regulation, there are possibly two other reasons why older workers react less intensely to justice violations than younger workers. Because older workers in general have fewer opportunities on the labor market, they might be more inclined to stay with their organisation, even though they are treated unfairly (Posthuma & Campion, 2009). Moreover, younger generations might be more inclined to change employers than older generations, and justice violations might act as a trigger to leave the organisation (Ng & Feldman, 2009). All in all, we expect an interaction between age and procedural justice in relation to turnover. The third hypothesis is:

H3: Age moderates the relation between procedural justice and turnover, with older workers reacting less strongly than younger workers.

Prior Trust as a Moderator in the Relation between Procedural Justice and Turnover

In addition to age, trust in the leader has been proposed as a moderator in the relation between procedural justice and turnover (Dirks & Ferrin, 2002). Previous research has shown that trust is an important factor in turnover decisions following unfair treatment (Van den Bos, Wilke, & Lind, 1998). Trust can be defined as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (Rousseau et al., 1998, p. 395). Because people tend to evaluate events with an eye towards confirming existing beliefs and attitudes, unfair treatment is perceived as less severe and intentional when people have high prior trust in their leader (Fiske & Taylor, 1984; Van den Bos et al., 1998). Therefore, employees with high trust will tend to attribute unfair treatment to unfortunate circumstances rather than to the deliberate intention of the employer (Robinson, 1996). In this way, the relation of procedural justice with turnover is buffered by the high trust people have, and hence they are more likely to stay with their organisations. Thus, although people may perceive that the employer treats its employees unfairly, they do not leave their organisation when they have a high trust-based relationship with their employer. In the same line of reasoning, Chiaburu and Marinova (2006) found significant interactive buffer effects of trust on the relation between justice and organisational citizenship behaviors. Therefore, the fourth hypothesis is:

H4: Prior trust moderates the relation between procedural justice and turnover, with the strongest relations for those with low prior trust.

Age and Trust as Moderators in the Relations between Procedural Justice and Turnover

Finally, it can be argued that the buffering effect of trust on the relation between procedural justice and turnover is strongest among older workers. Trust is important for older workers because of their increased focus on high-quality relationships with others (Carstensen et al., 2000). Throughout adulthood, the number of social contacts people have decreases but people receive more satisfaction from existing relationships (Carstensen, 1992). Emotional goals become more important by middle-adulthood than knowledge goals (Carstensen et al., 2003). Consequently, for older workers their present relationships with their employer and their leader become more important than striving for knowledge and learning (Ng & Feldman, 2009). Trust in the employer is central in the relationship between the organisation and the employee (Dirks & Ferrin, 2002). Therefore, trust will become more salient for older workers since it signifies the state of the relationship

between the older worker and the organisation. When older workers have high trust in the leader, the relationship is of high quality (Dirks & Ferrin, 2002), and will be more important in relation to turnover than procedural justice.

Furthermore, emotion regulation research has also shown that older people are better at coping with conflicting emotions (Diamond & Aspinwall, 2003). After procedural justice violations, older workers will be more likely to regulate their emotions in a constructive way (Birditt & Fingerman, 2005; Birditt, Fingerman, & Almeida, 2005; Gross, 2001). However, procedural justice violations may be the primary source of information for younger workers to react upon. Hence, because they feel treated unfairly, they leave the organisation (Aquino et al., 1997). Along similar lines, Wagner and Rush (2000) argued that for younger workers the level of engagement in citizenship behaviors depends on how justly they are treated by the organisation, whereas older workers are more benevolent, and their behaviors are less dependent on how they are treated by the organisation. Instead, for older workers the current state of their relationship with their organisation will be an important source of information to evaluate justice violations. In sum, for older workers, the level of trust in the organisation will be a primary driver of turnover decisions, with high trust functioning as a buffer against justice violations. The relation between procedural justice and turnover will therefore be smallest among older workers with high trust. Thus, we state that the relation between procedural justice and turnover will be negative among all younger workers and older workers with low trust in their organisation, and will be weaker among older workers with high trust in the organisation. The fifth hypothesis is:

H5: Age and trust moderate the relationship between procedural justice and turnover, such that the relationship is negative for younger workers and for older workers with low trust, whereas the relation is weaker for older workers with high trust in the organisation.

METHOD

Design

The Study on Health at Work (SHAW) is a longitudinal three-wave study among a sample of Dutch employees. The data were gathered through an existing internet panel of a research organisation in the Netherlands. In May 2004, this organisation randomly selected a sample of 3,100 employees from their panel of about 100,000 Dutch people, and sent out an invitation by e-mail to this sample to participate in the study. At the first measurement, 2,502 participants (81%) filled out the internet questionnaire for this study. These 2,502 participants were approached again by e-mail in May 2005 and

in May 2006 for the second and the third measurement. At the second measurement, 1,934 participants responded (77%), and at the third measurement, 1,921 participants responded (77%). In the resulting data file, there were 1,597 participants with full longitudinal data.

In line with the hypotheses of this study, we investigated the relation of procedural justice at T2 with turnover at T3. Furthermore, we investigated the moderating role of trust at T1 and age (measured at T1) on these relations. By investigating the variables at different time points, common method bias is minimised (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Sample

Of the 1,597 participants, 44 per cent were female. The age at the first measurement ranged from 15 to 64 years and the mean age was 39 years ($SD = 11$ years). Of the respondents, 4.6 per cent were below 20, 17 per cent between 21 and 30, 31.1 per cent between 31 and 40, 31.2 per cent between 41 and 50, 15.5 per cent between 51 and 60, and 0.6 per cent above 60 years old. In all, 19.4 per cent of the participants were 50 years or older. Educational level was low for 19 per cent of the participants (preparatory secondary school or less), middle for 41 per cent of the participants (secondary vocational training or highschool), and high for 41 per cent of the participants (higher vocational training and university).

At the first measurement, 90 per cent of the participants held a permanent job; the other 10 per cent had a temporary or flexible contract. This is comparable to the Dutch workforce (CBS, 2008). Moreover, 38 per cent of the participants had a part-time contract of 32 hours a week or less. Of the participants, 10 per cent had an executive position. The sample for this study was largely representative of the population of Dutch employees, and participants from all major classes of occupations and branches of industry were included (CBS, 2004). However, the sample contained relatively fewer young and lower educated employees and fewer immigrants than the Dutch population.

Instruments

Procedural Justice. Procedural justice was assessed at T2 with the scale from De Boer, Bakker, Syroit, and Schaufeli (2002). Four items measured structural procedural justice, an example being “At this company, employees’ complaints are taken seriously”. Employees indicated the extent to which this was characteristic for their organisation on a 5-point scale (1 = totally disagree to 5 = totally agree). The internal consistency of the procedural justice scale was good (T2 $\alpha = .87$).

Trust in the Leader. Trust in the leader was measured at T1. It was measured by a single item which stated: “Do you trust the leadership of your organisation?” Respondents rated this on a 3-point scale, with the categories “no”, “a little”, and “yes”. Previous studies have shown that one-item scales are valid to assess job attitudes (e.g. Nagy, 2002; Wanous, Reichers, & Hudy, 1997). A recent study by Ferrin, Dirks, and Shah (2006) showed evidence of the construct validity of a single-item measure for trust. Since trust was measured on all occasions, we calculated the intraclass correlation coefficient of the trust measure over time; this was .73. Moreover, to test for construct validity, we calculated the cross-sectional correlations between trust and procedural justice, which was also measured on all occasions. The correlations ranged between $r = .65$ and $.66$, similar to what previous meta-analyses have found ($r = .68$; Dirks & Ferrin, 2002, and $r = .65$; Cohen-Charash & Spector, 2001).

Turnover. This was measured at T3. Respondents were asked whether they had left their organisation in the last year (since the date of the second measurement) to work for another organisation (0 = no; 1 = yes). We could not distinguish between voluntary and involuntary turnover. In the Netherlands, during the data collection period, economic circumstances were favorable, with very few layoffs among employees (CBS, 2006). This means that the large majority of turnover in this study will have been voluntary. At T3, 14 per cent of the respondents had changed organisations.

Demographic Variables. Age was measured by the year of birth of the respondent. Furthermore, we controlled for the influence of gender (1 = male; 2 = female), education (scale from 1 = no education, to 7 = university degree), and contract status (1 = permanent contract; 2 = temporary contract) since these factors may influence perceptions of justice and turnover (Cohen-Charash & Spector, 2001). People with higher education may find a new job more easily, and employees with a temporary contract switch jobs more often than employees with a permanent contract.

Analysis

Logistic moderated regression analysis was conducted to test the hypotheses. The independent variables were standardised to avoid multicollinearity (Aiken & West, 1991). In the first step, gender, education, and contract status were included in the model. In the second step, age, procedural justice T2, and trust T1 were added. In the third step, in line with recommendations of Cortina (1993), we added squared terms of the independent variables (see also Edwards, 1996). In the fourth step, the two-way interactions were added, and in the fifth step the three-way interaction of age, procedural justice, and

trust was added. Simple slopes were calculated according to the methods of Aiken and West (1991) to investigate patterns of interactions between the variables procedural justice, trust, and age on turnover. More specifically, we calculated the simple slopes of procedural justice on turnover for the moderator variables at one standard deviation below and above the mean (i.e. age and trust T1). Furthermore, we conducted slope difference tests (Dawson & Richter, 2006), and calculated regions of significance for the interactions (Preacher, Curran, & Bauer, 2006).

RESULTS

Table 1 shows the correlations between the study variables. As can be seen, age was negatively related to procedural justice ($r = -.07$, $p < .01$) and also negatively related to turnover ($r = -.30$, $p < .01$). Moreover, procedural justice and trust were positively correlated ($r = .43$, $p < .01$). Finally, procedural justice was negatively related to turnover ($r = -.07$, $p < .01$), whereas trust was not significantly related to turnover ($r = -.04$, ns).

Table 2 shows the results of the hierarchical moderated logistic regression analysis. Procedural justice T2 was significantly related to turnover ($B = -.26$, $p < .01$, Odds Ratio [OR] = .77). Higher procedural justice was related to significantly lower turnover among employees. Therefore, Hypothesis 1 was supported. Moreover, age also was significantly related to turnover T3 ($B = -.67$, $p < .001$, OR = .51), indicating that turnover of older workers was lower than that of younger workers. Therefore, Hypothesis 2 was supported. Furthermore, age did not moderate the relation between procedural justice and turnover ($B = .08$, ns , OR = 1.09). Therefore, Hypothesis 3 was not supported.

Hypothesis 4 predicted an interaction between trust and procedural justice in relation to turnover. Trust T1 moderated the relation between procedural

TABLE 1
Correlations among the Research Variables ($N = 1597$)

Variable	Time	M	SD	1	2	3	4	5	6	7
1 Age	T1	39.27	10.54	—						
2 Gender	T1	1.44	.50	-.15**	—					
3 Education	T1	4.86	1.38	-.08**	.01	—				
4 Contract Status	T2	1.10	.30	-.26**	.12**	-.02	—			
5 Trust	T1	2.35	.70	-.08**	.04	.04	.06*	—		
6 Procedural Justice	T2	2.76	.86	-.07**	.03	.13**	.06*	.43**	—	
7 Turnover	T3	.14	.34	-.30**	.06*	.05	.30**	-.04	-.07**	—

Note: * $p < .05$; ** $p < .01$; Gender: 1 = male, 2 = female; Contract Status: 1 = permanent, 2 = temporary.

TABLE 2
Logistic Regression of Turnover T3 on Trust T1, Procedural Justice T2, and the Interactions between Age, Trust T1, and Procedural Justice T2

Variable	Turnover T3											
	B	Wald	Odds Ratio	B	Wald	Odds Ratio	B	Wald	Odds Ratio	B	Wald	Odds Ratio
<i>Step 1: Demographics</i>												
Gender	.16	.99	1.17	.02	.02	1.02	.03	.02	1.03	.01	.00	1.01
Education	.11*	3.88	1.12	.13*	4.18	1.14	.14*	5.03	1.15	.13*	4.35	1.14
Contract Status	2.02***	111.03	7.51	1.60***	55.22	4.96	1.55***	49.37	4.71	1.57***	50.16	4.82
<i>Step 2: Main effects</i>												
Age	-.83***			-.78***	79.56	.44	-.78***	54.25	.46	-.74***	50.08	.48
Procedural Justice T2	-.32***			-.27***	13.20	.73	-.27***	7.59	.76	-.23*	4.33	.80
Trust T1	-.17*			-.12	4.01	.84	-.12	1.25	.89	-.12	.97	.89
<i>Step 3: Squared terms</i>												
Age ²				.07			.07	.78	1.08	.10	1.35	1.10
Procedural Justice ²				.08			.08	.89	1.09	.13	2.14	1.14
Trust ²				.06			.06	.81	1.06	.12	3.08	1.13
<i>Step 4: Two-way interactions</i>												
Age * Trust T1										.03	.10	1.03
Age * Proc. Justice T2										.09	.90	1.09
Trust T1 * Proc. Justice T2										-.15*	3.74	.86
<i>Step 5: Three-way interaction</i>												
Age * Trust T1 * Proc. Justice T2										-.20*	5.64	.82
Model χ^2	110.55***			220.41***				223.35***		229.13***		235.00***
Model DF	3			6				9		12		13
-2 Log Likelihood	1120.90			1011.04				1008.10		1002.33		996.45
Nagelkerke R ²	.13			.24				.25		.25		.26

Note: N = 1,597; * $p < .05$; ** $p < .01$; *** $p < .001$; Gender: 1 = male, 2 = female; Contract Status: 1 = permanent, 2 = temporary.



FIGURE 1. Interaction between trust and procedural justice in relation to turnover.

justice T2 and turnover T3 significantly ($B = -.24, p < .01, OR = .79$). Figure 1 shows the interaction pattern. There was a non-significant relation for those with low trust ($B = .04, ns, OR = .96$), and a negative relation for those with high trust ($B = -.44, p < .01, OR = .65$). This was opposite to the hypothesis. Whereas it was predicted that the relation between procedural justice and turnover would be stronger among those with low trust, it was found that this relation was stronger among those with high trust.

Finally, the three-way interaction between procedural justice, trust, and age was significantly related to turnover T3 ($B = -.20, p < .05, OR = .82$). Simple slope analysis of procedural justice T2 on turnover T3 for four different groups (older workers [50 years] with low trust, older workers with high trust, younger workers [29 years] with low trust, younger workers with high trust) revealed that the slope of procedural justice on turnover was non-significant for older workers with low trust ($B = .26, ns, OR = 1.29$). The slope for older workers with high trust was negative ($B = -.57, p < .05, OR = .57$) as well as for younger workers with low trust ($B = -.31, p < .05, OR = .73$), and for younger workers with high trust ($B = -.35, p < .01, OR = .71$). The interactions between procedural justice, trust, and age in relation to turnover are graphically represented in Figure 2.

The relation of procedural justice with turnover was negative for all younger workers, regardless of their trust in the organisation, and also negative for older workers with high trust. The relation was not significant for the

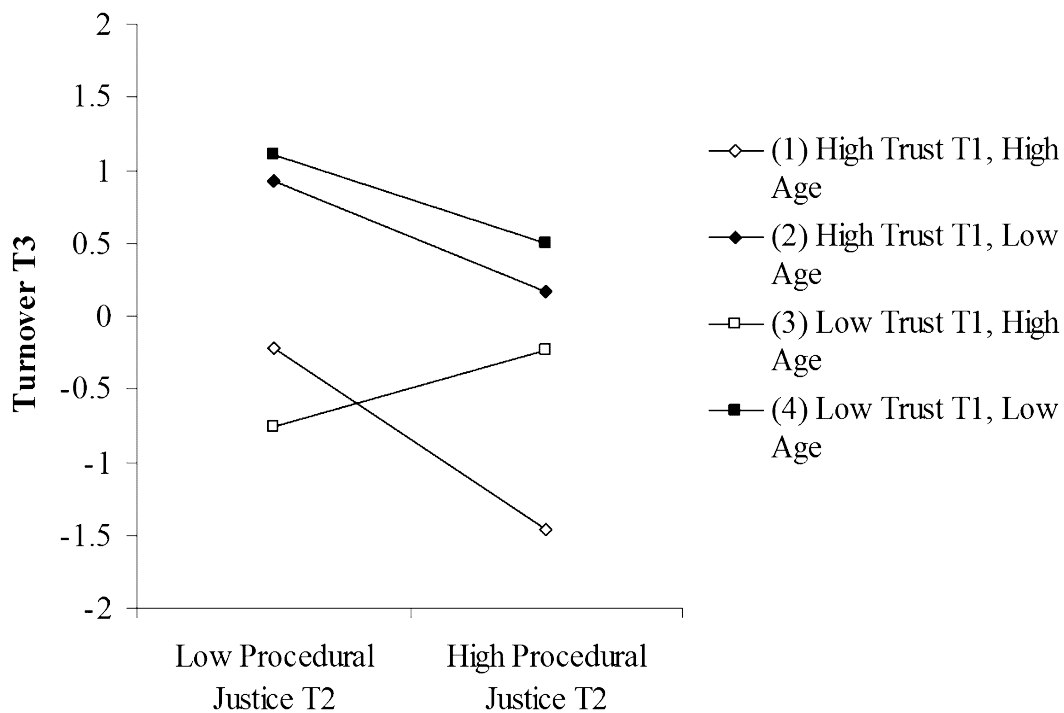


FIGURE 2. Interaction between procedural justice, trust, and age, in relation to turnover.

older workers with low trust. Thus, for older workers with low trust there was no relation between procedural justice and turnover. Slope difference tests revealed that all four slopes differed significantly from each other. Furthermore, regions of significance were calculated for the slopes. Three of the four simple slopes fell outside the regions of significance, showing that in the case of high trust (1 *SD* below the mean), both the slopes of younger (1 *SD* below the mean: 29 years of age) and older workers (1 *SD* above the mean: 50 years of age) differed significantly from the mean slope of the total sample. In the case of low trust (1 *SD* above the mean), the slope of older workers differed significantly from the mean slope of the total sample. In sum, the fifth hypothesis was not supported; stronger negative relations between procedural justice and turnover were found for older workers with high trust.

DISCUSSION

The current study investigated the roles of age and trust in the relation between procedural justice and employee turnover. We introduced boundary conditions to the relation between procedural justice and turnover, and expected that age and trust can influence these relationships. We found negative relations of age and procedural justice with turnover (Ng &

Feldman, 2009; Posthuma et al., 2007). The results of the longitudinal study showed that prior trust modifies the relation between procedural justice and turnover. However, the negative relationship between procedural justice and turnover was not accentuated by low trust, but was accentuated for people with high trust. More specifically, a combination of high procedural justice and high trust in the leader diminished the likelihood of employee turnover (see also Chiaburu & Marinova, 2006). Therefore, people who perceive high procedural justice and have high trust are more willing to stay with the organisation.

Further, the study revealed that these relations were strongest among older workers with high trust, whereas the relation was not significant for older workers with low trust. These findings are in contrast with notions from lifespan psychology, which states that older people are better at regulating their emotions after negative events (Gross et al., 1997), and are quicker at returning to positive moods after negative events (Carstensen et al., 2000). Instead, for older workers trust in the leader becomes essential in evaluations of procedural justice in determining whether or not to stay with the organisation. Theoretically, high trust could act as a buffer for older workers against negative effects of justice violations and contract breaches since trust in the leader reduces the impact of stressful situations resulting from injustice (Van den Bos et al., 1998). However, this buffer-hypothesis has been challenged by for instance Brockner, Tyler, and Cooper-Schneider (1992), and Bal, Ciaburu, and Jansen (2010), who stated that those with high prior commitment, in particular, and trust feel betrayed by unfair treatment and respond with higher turnover. For workers with a weak relation with the leader, injustice will be a mere signal from the organisation that employees are not valued. However, for those with high trust, injustice is perceived as an act of betrayal from the organisation, and poses a threat to self-identity and self-worth (Brockner et al., 1992). Along similar lines, older workers with high trust may feel betrayed by injustice, and consequently look for alternative employment opportunities.

These findings shed new light on the role of age in the workplace. A further explanation for the results is that the increased saliency of the present-orientation and emotional meaning for older workers (Carstensen, 2006) causes a decreased tolerance level for justice violations at the workplace. Because older workers feel that their current relationships should be emotionally meaningful, injustice threatens relationships, and therefore older workers look for organisations investing in emotional relationships with them. On the contrary, older workers with weak relationships with their leaders are likely to have low expectations of fair treatment, and consequently reactions will be less severe. Another explanation for the increased responsiveness among older workers with high trust might be that trust is a long-term state that needs time to develop. For younger

workers, who have had less time to build a trust-based relationship with the organisation, procedural justice is the most prominent signal from the organisation to react upon. However, older workers may fear that the trust-based relationship will be damaged by an unjust climate, and consequently look for another organisation.

We did not find support for Hypothesis 3, that age moderated the relation between procedural justice and turnover. It can be argued that the role of age in the relation between procedural justice and turnover is more complex than just a stronger reaction of younger workers to injustice. From the findings in relation to Hypotheses 4 and 5, it is clear that trust plays an important role in evaluations of procedural justice in terms of turnover. It can be concluded that contextual variables, such as trust in the leader, may have different relevance for younger and for older workers in interpreting procedural justice.

Strengths and Limitations

A major strength of this study is the longitudinal design among a representative sample of Dutch employees. By investigating relations over time, we were able to determine how people react to justice at the workplace. Although the present study was based on a study with time lags of 1 year and 2 years between the separate variables, a limitation is that the constructs were all based on self-reports. Therefore, there is a chance of common method bias. However, the longitudinal design substantially decreased this risk (Podsakoff et al., 2003). Moreover, we asked whether people had actually left their organisation instead of turnover intentions. Although not objectively measured, there is a marginal risk of response bias in turnover data.

Another limitation is that we could not control for opportunities on the labor market as a possible alternative explanation for our results (Ng & Feldman, 2009). Older workers may be less inclined to leave the organisation when they are treated unfairly, because they perceive that they have fewer opportunities on the labor market (Ng & Feldman, 2009). However, decreased opportunities on the labor market for older workers will be reflected by a main effect of age on turnover, because younger workers will switch jobs more often, regardless of how they are treated by their organisation. If people have many employment opportunities, both positive (e.g. getting a better job somewhere else) and negative factors (dissatisfaction with the present job) may contribute to turnover. As we found in our study, there was a main effect of age on turnover, but the interest was in moderators in the relation of procedural justice with turnover. Further, although younger workers in general are more inclined to switch jobs, the lifetime employment model has been changing for older as well as for younger workers (Ng & Feldman, 2009). In our study, turnover among employees over 50 was 4 per

cent, which is similar to the 5 per cent turnover for the total sample in the Aquino et al. study (1997). Cohort effects could also partly explain the findings. For instance, for younger people nowadays, it is accepted that they will have multiple employers throughout their career, whereas older people are more likely to spend their entire career with the same organisation (Ng & Feldman, 2009). In sum, it might be the case that older workers are more reluctant to react to justice violations because they have fewer alternatives, and because they are generally less inclined to leave their organisation.

Another limitation could be that we used a single-item measure of trust, although previous research has shown that these are valid measures (Ferrin et al., 2006). A further limitation is that this study focused only on the relations of *procedural* justice with turnover. Colquitt et al. (2006) argued that trust is important in relation to procedural justice, whereas distributive justice theories do not emphasise the role of trust. Heuer and colleagues (2002) also explain that procedural justice has a relational base, whereas distributive justice has a resource base. Thus, since the employment relationship is essential in procedural justice, trust will play a larger role in procedural justice compared to distributive justice. However, we performed post-hoc analyses with distributive justice as independent variable and turnover as outcome. Items were taken from the same source as procedural justice (De Boer et al., 2002). Two types were measured: distributive justice of salary and of supervisory appreciation. Consistent with our view, we did not find significant interactions among age, trust, and distributive justice in relation to turnover. Finally, a test for the interdependence of procedural justice with trust was conducted with a regression analysis with trust T3 as outcome of procedural justice T2, and controlling for trust T1. The effect of procedural justice T2 on trust T3 was significant ($\beta = .33, p < .001, \Delta R^2 = .09$), with trust over time also being significant ($\beta = .26, p < .001$). Therefore, it can be concluded that procedural justice is related to changes in trust over time.

A final limitation could be that we did not differentiate between voluntary and involuntary turnover. A growing percentage of the Dutch working population has a temporary contract, increasing the mobility of workers (CBS, 2008). Because turnover is higher among employees with temporary contracts, we found that contract status was indeed related to turnover.

Further, we measured procedural justice climate (or how fairly employees are treated *in general* within their organisation). Further research could investigate whether results will be different when employees are asked how fairly they are treated individually (Liao & Rupp, 2005).

Practical Implications

Currently, the graying workforce demands organisational attention to retention of older workers because there are fewer early retirement options, and

therefore older employees have to work longer. For younger workers, fair procedures are particularly relevant, since it is likely that when younger workers perceive low procedural justice, they will leave the organisation. For older workers, however, it is important to invest in both trust-based relationships as well as fair treatment. Since turnover of older workers may lead to losses of relevant knowledge and experience in the company, it is important to build trust among older workers, and create a fair work environment. In general, to build trust among employees, organisations should emphasise transformational leadership styles, and provide employees with support from the organisation (Dirks & Ferrin, 2002).

Conclusion

The current study showed that the relations between procedural justice and turnover differed among younger and older workers and among employees with high and low trust. Negative relations were found for younger workers and for older workers with high trust, whereas procedural justice was not related to turnover among older workers with low trust. The study contributed to existing research on procedural justice by explaining why unfair procedural treatment does not necessarily lead to employee turnover. Researchers may benefit from incorporating a lifespan perspective on the relations between justice perceptions and work behaviors.

REFERENCES

- Adams, J.S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 267–299). New York: Academic Press.
- Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. San Francisco, CA: Sage Publications.
- Aquino, K., Griffeth, R.W., Allen, D.G., & Hom, P.W. (1997). Integrating justice constructs into the turnover process: A test of a referent cognitions model. *Academy of Management Journal*, 40, 1208–1227.
- Aryee, S., Budhwar, P.S., & Chen, Z.X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behavior*, 23, 267–285.
- Bal, P.M., Ciaburu, D.S., & Jansen, P.G.W. (2010). Psychological contract breach and work performance: Is social exchange a buffer or an intensifier? *Journal of Managerial Psychology*, 25, 252–273.
- Bal, P.M., De Lange, A.H., Jansen, P.G.W., & Van der Velde, M.E.G. (2008). Psychological contract breach and job attitudes: A meta-analysis of age as a moderator. *Journal of Vocational Behavior*, 72, 143–158.
- Birditt, K.S., & Fingerman, K.L. (2005). Do we get better in picking our battles? Age group differences in descriptions of behavioral reactions to interpersonal tensions. *Journal of Gerontology: Psychological Sciences*, 60B, P121–P128.

- Birditt, K.S., Fingerman, K.L., & Almeida, D.M. (2005). Age differences in exposure and reactions to interpersonal tensions: A daily diary study. *Psychology and Aging, 20*, 330–340.
- Brockner, J., Tyler, T.R., & Cooper-Schneider, R. (1992). The influence of prior commitment to an institution on reactions to perceived unfairness: The higher they are, the harder they fall. *Administrative Science Quarterly, 37*, 241–261.
- Carstensen, L.L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Aging, 7*, 331–338.
- Carstensen, L.L. (1995). Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological Science, 4*, 151–156.
- Carstensen, L.L. (2006). The influence of a sense of time on human development. *Science, 312*, 1913–1915.
- Carstensen, L.L., Fung, H.H., & Charles, S.T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion, 27*, 103–123.
- Carstensen, L.L., Pasupathi, M., Mayr, U., & Nesselroade, J.R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology, 79*, 644–655.
- CBS (2004). Enquete Beroepsbevolking (EBB) [Survey of working population]. Retrieved 20 April 2009 from: <http://www.cbs.nl/nl-NL/menu/methoden/dataverzameling/2004-ebb-vragenlijst-art.htm>.
- CBS (2006). *Sociaal-economische Trends. Statistisch Kwartaalblad over Arbeidsmarkt, Sociale Zekerheid en Inkomen* [Social-economic trends: Statistical journal on labor market, social security and income]. Voorburg, The Netherlands: Centraal Bureau voor de Statistiek.
- CBS (2008). Een op de elf werknemers heeft flexibele arbeidsrelatie. Retrieved 29 September 2008 from: <http://www.cbs.nl/nl-NL/menu/themas/arbeid-sociale-zekerheid/publicaties/artikelen/archief/2008/2008-2573-wm.htm>.
- Chiaburu, D.S., & Marinova, S.V. (2006). Employee role enlargement: Interactions of trust and organizational fairness. *Leadership & Organization Development Journal, 27*, 168–182.
- Cohen, A.A. (1991). Career stage as moderator of the relationships between organizational commitment and its outcomes: A meta-analysis. *Journal of Occupational Psychology, 64*, 253–268.
- Cohen, A.A. (1993). Age and tenure in relation to organizational commitment: A meta-analysis. *Basic and Applied Psychology, 14*, 143–159.
- Cohen-Charash, Y., & Spector, P.E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes, 86*, 278–321.
- Colquitt, J.A., Scott, B.A., Judge, T.A., & Shaw, J.C. (2006). Justice and personality: Using integrative theories to derive moderators of justice effects. *Organizational Behavior and Human Decision Processes, 100*, 110–127.
- Cortina, J.M. (1993). Interaction, nonlinearity and multicollinearity: Implications for multiple regressions. *Journal of Management, 19*, 915–922.

- Dawson, J.F., & Richter, A.W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology, 91*, 917–926.
- De Boer, E., Bakker, A.B., Syroit, J.E., & Schaufeli, W.B. (2002). Unfairness at work as a predictor of absenteeism. *Journal of Organizational Behavior, 23*, 181–197.
- Diamond, L.M., & Aspinwall, L.G. (2003). Emotion regulation across the life span: An integrative perspective emphasizing self-regulation, positive affect, and dyadic processes. *Motivation and Emotion, 27*, 125–156.
- Dirks, K.T., & Ferrin, D.L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology, 87*, 611–628.
- Edwards, J.R. (1996). An examination of competing versions of the person–environment fit approach to stress. *Academy of Management Journal, 39*, 292–339.
- European Commission (2005). Communication from the Commission. Green paper, Confronting demographic change: A new solidarity between the generations. Brussels: Commission of the European Communities.
- Feldman, D.C. (2007). Career mobility and career stability among older workers. In K.S. Shultz & G.A. Adams (Eds.), *Aging and work in the 21st century* (pp. 179–198). Mahwah, NJ: Lawrence Erlbaum.
- Ferrin, D.L., Dirks, K.T., & Shah, P.P. (2006). Direct and indirect effects of third-party relationships on interpersonal trust. *Journal of Applied Psychology, 91*, 870–883.
- Fischer, R., & Smith, P.B. (2006). Who cares about justice? The moderating effect of values on the link between organisational justice and work behaviour. *Applied Psychology: An International Review, 55*, 541–562.
- Fiske, S.T., & Taylor, S.E. (1984). *Social cognition*. New York: Random House.
- Gouldner, A.W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*, 161–178.
- Griffeth, R.W., Hom, P.W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*, 463–488.
- Gross, J.J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science, 10*, 214–219.
- Gross, J.J., Carstensen, L.L., Pasupathi, M., Tsai, J., Skorpen, C.G., & Hsu, A.Y.C. (1997). Emotion and aging: Experience, expression, and control. *Psychology and Aging, 12*, 590–599.
- Healy, M.C., Lehman, M., & McDaniel, M.A. (1995). Age and voluntary turnover: A quantitative review. *Personnel Psychology, 48*, 335–345.
- Hendrix, W.H., Robbins, T., Miller, J., & Summers, T.P. (1998). The effects of procedural and distributive justice on factors predictive of turnover. *Journal of Social Behavior and Personality, 13*, 611–632.
- Heuer, L., Penrod, S., Hafer, C.L., & Cohn, I. (2002). The role of resource and relational concerns for procedural justice. *Personality and Social Psychology Bulletin, 28*, 1468–1482.
- Homans, G.C. (1961). *Social behaviour: Its elementary forms*. New York: Harcourt Brace.

- John, O.P., & Gross, J.J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, 72, 1301–1333.
- Kafetsios, K. (2004). Attachment and emotional intelligence abilities across the life course. *Personality and Individual Differences*, 37, 129–145.
- Kanfer, R., & Ackerman, P.L. (2004). Aging, adult development, and work motivation. *Academy of Management Review*, 29, 440–458.
- Lavelle, J.J., Rupp, D.E., & Brockner, J. (2007). Taking a multifoci approach to the study of justice, social exchange, and citizenship behavior: The target similarity model. *Journal of Management*, 33, 841–866.
- Liao, H., & Rupp, D.E. (2005). The impact of justice climate and justice orientation on work outcomes: A cross-level multifoci framework. *Journal of Applied Psychology*, 90, 242–256.
- Lind, E.A., & Tyler, T.R. (1988). *The social psychology of procedural justice*. New York: Plenum.
- Nagy, M.S. (2002). Using a single-item approach to measure facet job satisfaction. *Journal of Occupational and Organizational Psychology*, 75, 77–86.
- Naumann, S.E., & Bennett, N. (2000). A case for procedural justice climate: Development and test of a multilevel model. *Academy of Management Journal*, 43, 881–889.
- Ng, T.W.H., & Feldman, D.C. (2009). Re-examining the relationship between age and voluntary turnover. *Journal of Vocational Behavior*, 74, 283–294.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Pond, S.B., & Geyer, P.D. (1987). Employee age as a moderator of the relation between perceived work alternatives and job satisfaction. *Journal of Applied Psychology*, 72, 552–557.
- Pond, S.B., & Geyer, P.D. (1991). Differences in the relation between job satisfaction and perceived work alternatives among older and younger blue-collar workers. *Journal of Vocational Behavior*, 39, 251–262.
- Posthuma, R.A., & Campion, M.A. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management*, 35, 158–188.
- Posthuma, R.A., Maertz, C.P. Jr., & Dworkin, J.B. (2007). Procedural justice's relationship with turnover: Explaining past inconsistent findings. *Journal of Organizational Behavior*, 28, 381–398.
- Preacher, K.J., Curran, P.J., & Bauer, D.J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, 31, 437–448.
- Robinson, S.L. (1996). Trust and breach of the psychological contract. *Administrative Science Quarterly*, 41, 574–599.
- Rousseau, D.M., Sitkin, S.B., Burt, R.S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23, 393–404.

- Siers, B. (2007). Relationships among organizational justice perceptions, adjustment, and turnover of United States-based expatriates. *Applied Psychology: An International Review*, 56, 437–459.
- Sterns, H.L., & Camp, C.J. (1998). Applied gerontology. *Applied Psychology: An International Review*, 47, 175–198.
- Tangirala, S., & Ramanujam, R. (2008). Employee silence on critical work issues: The cross-level effects of procedural justice climate. *Personnel Psychology*, 61, 37–68.
- Thibaut, J., & Walker, L. (1975). *Procedural justice: A psychological analysis*. New York: Erlbaum.
- Turnley, W.H., & Feldman, D.C. (1999). A discrepancy model of psychological contract violations. *Human Resource Management Review*, 9, 367–386.
- Van den Bos, K., Wilke, H.A.M., & Lind, E.A. (1998). When do we need procedural fairness? The role of trust in authority. *Journal of Personality and Social Psychology*, 75, 1449–1458.
- Van der Heijden, B.I.J.M., Schalk, R., & Van Veldhoven, M.J.P.M. (2008). Ageing and careers: European research on long-term career development and early retirement. *Career Development International*, 13, 85–94.
- Wagner, S.L., & Rush, M.C. (2000). Altruistic organizational citizenship behavior: Context, disposition, and age. *Journal of Social Psychology*, 140, 379–391.
- Wanous, J.P., Reichers, A.E., & Hudy, M.J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology*, 82, 247–252.