AGE AND TRUST AS MODERATORS IN THE RELATION BETWEEN PROCEDURAL JUSTICE AND TURNOVER: A LARGE-SCALE LONGITUDINAL STUDY

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Short Title: Age and Procedural Justice
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Abstract

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 in 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 1597 Dutch employees indeed revealed significant interactions between trust and procedural justice in relation to turnover. Furthermore, the three-way interaction was significant, with negative 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.

Keywords: Older Workers; Procedural Justice; Trust; Turnover

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Short Title: Age and Procedural Justice
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 organizational 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 organization, 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 organization (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 et al., 1997) and fewer alternatives at 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, especially trust 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 organizational 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 organizational 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 organizations and their managers treat them procedurally fair because this signals that the employees are being valued equally as members of the organization (Posthuma, Maertz Jr., & Dworkin, 2007; Siers, 2007). Conversely, unfair procedural treatment may enhance the feeling that employees are not valued as members of the organization.
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 organization, 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 organization (Liao & Rupp, 2005). However, when there is an unjust climate in the organization, employees realize that transferring to another function or department in the organization will not improve their treatment by the organization. Therefore, they will be more likely to leave the organization 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 organization offers them should be proportional to their contributions to the organization. If the employer treats employees 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 indeed low procedural justice relates to higher turnover (Aquino, Griffeth, Allen, & Hom, 1997; Griffeth, Hom, & Gaertner, 20000; 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, 2009a; Turnley & Feldman, 1999). Older workers are more embedded within their jobs and therefore have lower needs to change jobs, and are in general more committed to their organizations 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 (2009a) 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 indeed 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 differs 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 in 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 in 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 in regulating their emotions after negative events than younger people (Carstensen, 1995; Carstensen, Fung, & Charles, 2003), and are quicker in 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 organization and organizational 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 organization and their leaders, and therefore are more inclined to hold positive beliefs about their organization and their employer, even when their psychological contract has been broken. Moreover, Cohen (1991) found that the relation between organizational 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 organization, 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 organization (Ng & Feldman, 2009a). All in all, we expect an interaction between age and procedural justice in relation to turnover. The third hypothesis is:

\[ H3: \text{Age moderates the relation between procedural justice and turnover, with older workers reacting less strongly than younger workers.} \]

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). 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 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 organizations. Thus, although people may perceive that the employer treats its employees unfair, they do not leave their organization 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 organizational 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 the 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, 2009a). Trust in the employer is central in the relationship between the organization 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 organization. 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 in 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 organization (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 organization,
whereas older workers are more benevolent, and their behaviors are less dependent on how they are treated by the organization. Instead, for older workers the current state of their relationship with their organization will be an important source of information to evaluate justice violations. In sum, for older workers, the level of trust in the organization will be a primary driver of turnover decisions, with high trust functioning as a buffer against justice violations. The relation of procedural justice with turnover will therefore be the smallest among older workers with high trust. Thus, we state that the relation of procedural justice with turnover will be negative among all younger workers and older workers with low trust in their organization, and will be weaker among older workers with high trust in the organization. The fifth hypothesis is:

\[ H5: \text{Age and trust moderate the relationship between procedural justice and turnover, such that the relationship is negative for younger workers, and for older workers with low trust, whereas the relation is weaker for older workers with high trust in the organization.} \]

**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 organization in the Netherlands. In May 2004, this organization randomly selected a sample of 3,100 employees in 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 T1 and age (measured at T1) on these relations. By investigating the variables at different time points, common method bias is minimized (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Sample

Of the 1,597 participants, 44% were female. The age at the first measurement ranged from 15-64 years and the mean age was 39 years (SD = 11 years). Of the respondents, 4.6% was below 20, 17% between 21-30, 31.1% between 31-40, 31.2% between 41-50, 15.5% between 51-60, and 0.6% above 60 years old. 19.4% of the participants was 50 years or older. Educational level was low for 19% of the participants (preparatory secondary school or less), middle for 41% of the participants (secondary vocational training or high school), and high for 41% of the participants (higher vocational training and university). At the first measurement, 90% of the participants held a permanent job; the other 10% had a temporary or flexible contract. This is comparable to the Dutch workforce (CBS, 2008). Moreover, 38% of the participants had a part-time contract of 32 hours a week or less. Of the participants, 10% 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 was assessed at T2 with the scale from De Boer, Bakker, Schaufeli, and Syroit (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 organization on a 5-point scale (1=totally disagree to 5=totally agree). The internal consistency of the procedural justice scale was good (T2 α = .87).

_Trust in the leader_ was measured at T1. It was measured by a single item which stated: ‘do you trust the leadership of your organization?’ Respondents rated this by a three-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 of Ferrin, Dirks, and Shah (2006) showed evidence for the construct validity of a single-item measure for trust. Since trust was measured at 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 at 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_ was measured at T3. Respondents were asked whether they had left their organization in the last year (since the date of the second measurement) to work for another organization (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% of the respondents had changed organizations.

_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-
People with higher education may find a new job easier, 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 standardized 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 is supported. Moreover, age also was significantly related to turnover T3 (B = -.67, p < .001, OR = .51), indicating that turnover of older workers is lower than that of younger workers. Therefore, hypothesis 2 is supported. Furthermore, age did not moderate the relation between procedural justice and turnover (B = .08, ns, OR = 1.09). Therefore, hypothesis 3 is not supported.

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

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The relation of procedural justice with turnover is negative for all younger workers, regardless of their trust in the organization, and also negative for older workers with high trust. The relation was not significant for the older workers with low trust. Thus, for older workers with low trust there is 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 is not supported; stronger negative relations between procedural justice and turnover were found for older workers with high trust.

DISCUSSION
The current study investigated the moderating roles of age and trust in the relation between procedural justice and employee turnover. Building on previous research on moderators of the relationships between procedural justice and outcomes (Aquino et al., 1997; Colquitt et al., 2006), we introduced boundary conditions to the relation between procedural justice and turnover, and we expected age and trust can influence these relationships. In line with previous findings we found negative relations of age and procedural justice with turnover (Ng & Feldman, 2009a; 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, as was expected, but the relation of procedural justice with turnover was significantly accentuated for people with high trust. More specifically, a combination of high procedural justice and high trust in the leader diminishes the likelihood of employee turnover (see also Chiaburu & Marinova, 2006). Therefore, trust in the leader acts as a boundary condition between procedural justice and turnover, where people who perceive high procedural justice and have high trust are more willingly to stay with the organization.

Further, the study revealed that these relations differ between younger and older workers. Theoretically, older workers with high trust in their leaders would be more inclined to attribute procedural justice violations to circumstances than to deliberate actions of the employer, and focus on their relationship with the leader, and therefore respond less intensely to injustice. Hence, we expected turnover to be lower among older workers with high trust. The study indeed revealed negative relationships between procedural justice and turnover among younger workers, but also found negative relations for older workers with high trust. Finally, the relation was not significant for older workers with low trust.
The current findings are in contrast with notions from lifespan psychology, which states that older people are better in regulating their emotions after negative events (Gross et al., 1997), and are quicker in 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 organization. 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). Findings from lifespan psychology have indicated dampening of emotional responsiveness (Carstensen, 2006) and increased emotion regulation skills among older people (Gross, 2001). However, this buffer-hypothesis has been challenged by for instance Brockner and colleagues (1992), and Bal and colleagues (2009), who stated that especially those with high prior commitment and trust in their employer will feel betrayed by unfair treatment. Consequently, they respond with higher turnover. This is because for workers with a weak relation with the leader, injustice will be a mere signal from the organization that employees are not respected and valued. However, for those with high prior trust, injustice will be perceived as an act of betrayal from the organization, 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 will look for alternative employment opportunities.

A further alternative explanation for the results might be that the increased saliency of the present-orientation and emotional meaning in existing relationships for older workers (Carstensen, 1995, 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 with their leaders, and therefore older workers look for organizations investing in emotional relationships with them. Contrary, older workers with
weak relationships with their leaders, indicated by low trust, are likely to have low expectations of fair treatment, and consequently reactions will be less severe.

These findings shed new light on the role of age in the workplace. As the results suggest, older workers evaluate injustice differently from younger workers, and take the existing relationship with the leader into account when making turnover decisions. Whereas the impact of trust on the relation between procedural justice and turnover is not strong for younger workers, for older workers it influences the decision whether to stay with the organization or to leave the organization. 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 organization, procedural justice is the most prominent signal from the organization 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 organization that invests in stronger relationships with their employees.

The current study adds to previous studies on modifying conditions in reactions to how organizations treat their employees. This study adds to that of Bal and colleagues (2008) who found more intense reactions of older workers on psychological contract breaches in relation to job satisfaction. It might be argued that contract breaches and injustice represent such strong violations that younger as well as older workers react on them, but that reactions differ in terms of outcomes and are influenced by the existing relationship with the leader and the organization.

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 relation between procedural justice and turnover is more complex than just a stronger reaction of younger workers to injustice. From the findings of 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 the Dutch employees. By investigating the relations over time, we could determine how people react to justice at the workplace. It can be argued that workers, when they perceive that employees are treated unfairly in the organization, will evaluate and interpret the situation, and that taking action may cost time and effort. Therefore, a longitudinal design reflects better how people react to justice over time.

Although the present study was based on a study with time lags of one year and two 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 organization instead of turnover cognitions. Although not objectively measured, there is a marginal risk of response bias in turnover data.

A further limitation is that we could not control for opportunities on the labor market as a possible alternative explanation for our results (see e.g., Ng & Feldman, 2009a). It could be that older workers are less inclined to leave the organization when they are treated unfairly, because they perceive having fewer opportunities on the labor market (Ng & Feldman, 2009a). However, there are two main reasons for the strengths of our findings. First, decreased opportunities on the labor market of older workers will be mainly reflected by a main effect of age on turnover, because if this is the case, older workers will have lower turnover than younger workers, regardless of how they are treated by their organization. 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 we were particularly interested in moderators in the relation of procedural justice with turnover. Second, 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, 2009a). In our study, the percentage of turnover among the employees over 50 was 4%, which did not differ much from the 5% turnover for the total sample in the study of Aquino and colleagues (1997) on the relations between justice and turnover. Thus, older workers do switch jobs, but less often than younger workers.

Cohort effects could also partly explain the findings, but we were not able to control for these effects. For instance, for younger people nowadays, it is accepted to have multiple employers throughout the career, whereas older people are more likely to spend their entire career with the same organization (Ng & Feldman, 2009a). In sum, it might be the case that older workers are more reluctant towards justice violations because they have fewer alternatives, and because they are generally less inclined to leave their organizations. Future research might shed more light on these issues.

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). Moreover, we measured trust in the leader. It might be that people hold different attitudes towards the organization as a whole compared to their attitudes towards the leader. Therefore, future research could also investigate trust in the organization. Further, although explained variance was not high, it has been shown that it is hard to detect statistical significant moderators in field studies (McClelland & Judd, 1993). Therefore, finding significant interactions is meaningful in understanding boundary conditions to the relationships between justice and turnover.
A further limitation could be that this study only focused on the relations of *procedural* justice with turnover. Colquitt and colleagues (2006) argued that trust is important in relation to procedural justice, whereas distributive justice theories do not emphasize the role of trust in processes underlying the relations of distributive justice with work outcomes. Heuer and colleagues (2002) also explain that procedural justice has a relational base, whereas distributive justice has a resource base (see also Lind & Tyler, 1988). Thus, since the employee-organization relationship is essential in procedural justice issues, trust will play a larger role in procedural justice compared to distributive justice. However, to test whether the moderating roles of age and trust also applied to the relations between distributive justice and turnover, we performed post-hoc analyses with distributive justice as independent variable and turnover as outcome. Items were taken from the same source as the procedural justice measure (De Boer et al., 2002). Two types of distributive justice were measured: distributive justice regarding salary and regarding appreciation from superiors. Consistent with our view, we did not find significant interactions among age, trust, and both distributive justice measures in relation to turnover. Finally, an empirical test for the relation of procedural justice with trust was conducted by means of 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 the stability of trust over time being significant as well ($\beta = .26, p < .001$). 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. However, 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, it is important to control for this variable. In this study, contract status was indeed related to turnover.
For future research it would be interesting to study separate age-related concepts within the current study design (De Lange et al., 2006). We derived our theoretical arguments from lifespan psychology. However, we were not able to test the influence of emotion regulation strategies and perceptions of future time (Gross, 2001; Zacher & Frese, 2009). An avenue for future research should be how different age-related concepts (i.e., future time perspective, chronological age, and subjective age) explain differences in reactions to organizational treatment, including fairness of procedures, and psychological contracts (De Lange et al., 2006; Ng & Feldman, 2008).

Further, we used a measure for procedural justice that is aimed at the assessment of how respondents perceive how fair employees are treated in general within their organization. Further research could investigate whether results will be different when another approach to procedural justice is taken (De Boer et al., 2002). For instance, employees might respond differently when they are asked how fair they are treated individually (Liao & Rupp, 2005).

Practical Implications

The study has practical implications as well. In the current economy, organizations are increasingly concerned with attraction and retention of skilled employees. Moreover, the graying workforce demands organizational attention to retention of older workers, with fewer early retirement options, through which older employees have to work longer. The current study shows that for younger workers, fair procedures are particularly relevant, since it is likely that when younger workers perceive low procedural justice, they will leave the organization. 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, organizations should emphasize
transformational leadership styles, and providing employees with support from the organization (Dirks & Ferrin, 2002).

Conclusion

The current study sought to explain whether older workers react differently to procedural justice than younger workers. By including another important moderating variable, trust in the organization, the 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 older workers with high trust, whereas procedural justice was not related to turnover among older workers with low trust. The study contributed 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


Table 1: Correlations among the research variables (N=1597).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time</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>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>T1</td>
<td>39.27</td>
<td>10.54</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>T1</td>
<td>1.44</td>
<td>.50</td>
<td>-.15**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>T1</td>
<td>4.86</td>
<td>1.38</td>
<td>-.08**</td>
<td>.01</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Status</td>
<td>T2</td>
<td>1.10</td>
<td>.30</td>
<td>-.26**</td>
<td>.12**</td>
<td>-.02</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>T1</td>
<td>2.35</td>
<td>.70</td>
<td>-.08**</td>
<td>.04</td>
<td>.04</td>
<td>.06*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>T2</td>
<td>2.76</td>
<td>.86</td>
<td>-.07**</td>
<td>.03</td>
<td>.13**</td>
<td>.06*</td>
<td>.43**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Turnover</td>
<td>T3</td>
<td>.14</td>
<td>.34</td>
<td>-.30**</td>
<td>.06*</td>
<td>.05</td>
<td>.30**</td>
<td>-.04</td>
<td>-.07**</td>
<td>--</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Turnover T3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Step 1: Demographics</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.16</td>
</tr>
<tr>
<td>Education</td>
<td>.11*</td>
</tr>
</tbody>
</table>
| 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     | 1.57***| 49.96 | 4.80     
| **Step 2: Main Effects**        |     |      |            |     |      |            |     |      |            |     |      |            |
| Age                             | -.83***| 79.56 | .44       | -.78***| 54.25 | .46       | -.74***| 50.08 | .48       | -.67***| 39.21 | .51       |
| Procedural Justice T2           | -.32***| 13.20 | .73       | -.27** | 7.59  | .76       | -.23*  | 4.33  | .80       | -.26*  | 5.58  | .77       |
| Trust T1                        | -.17* | 4.01 | .84       | -.12  | 1.25  | .89       | -.12  | .97   | .89       | -.15  | 1.64  | .86       |
| **Step 3: Squared terms**       |     |      |            |     |      |            |     |      |            |     |      |            |
| Age^2                           | .07  | .78  | 1.08       | .10  | 1.35  | 1.10       | .11  | 1.66  | 1.12       |
| Procedural Justice^2            | .08  | .89  | 1.09       | .13  | 2.14  | 1.14       | .14  | 2.52  | 1.15       |
| Trust^2                         | .06  | .81  | 1.06       | .12  | 3.08  | 1.13       | .12  | 2.88  | 1.13       |
| **Step 4: Two-way Interactions**|     |      |            |     |      |            |     |      |            |     |      |            |
| Age * Trust T1                  | .03  | .10  | 1.03       | .02  | .03  | .99       |
| Age * Proc. Justice T2          | .09  | .90  | 1.09       | .08  | .80  | 1.09       |
| Trust T1 * Proc. Justice T2     | -.15*| 3.74 | .86       | -.24**| 7.71  | .79       |
| **Step 5: Three-way interaction**|     |      |            |     |      |            |     |      |            |
| Age * Trust T1 * Proc. Justice T2| .20*| 5.64 | .82       |

Note: N= 1597; * p < .05; ** p < .01; *** p < .001; Gender: 1 = male, 2 = female; Contract Status: 1 = permanent, 2 = temporary