

# **AGE, RESISTANCE TO CHANGE, AND JOB PERFORMANCE: TESTING FOR A COMMON STEREOTYPE**

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## **INTRODUCTION**

An ongoing demographic shift constitutes a key challenge for most industrialized countries: An aging and shrinking population caused by low birth rates and increased longevity will necessitate that companies find ways to cope with an increasingly aging workforce (Dychtwald, Erickson, & Morison, 2004; Feyrer, 2007; Lieber, 2007).

One factor that may put such engagement at risk is negative age stereotypes held by many employers and coworkers (Posthuma & Campion, 2009; Walker, 1999). Those stereotypes could lead to poor retention of older employees, less retraining, and higher barriers for those who want to reenter the workforce (Burke & Ng, 2006). For most of the common stereotypes, empirical research has proven them to be unfounded. For example, extensive research has shown the negative age/job performance stereotype to be wrong (e.g. Kanfer & Ackermann, 2004; McEvoy & Cascio, 1989; Reio & Sanders-Reio, 1999), while other studies have found training success and age, as well as the relation between costs and older workers, to be unconnected (e.g. Broadbridge, 2001).

However, the assessment of one often-held stereotype, that older workers are more resistant to change (e.g. Chiu, Chan, E., & Redman, 2001; Rosen & Jerdee, 1977; Weiss & Maurer, 2004) is quite underrepresented in empirical research. Posthuma and Campion conclude in their recent literature review that there is "virtually no research that examines the validity of this stereotype ... and future research should explore whether it is true" (2009: 168).

Besides the main effect of age on resistance to change it seems also plausible that other demographic factors may moderate this relationship, a research issue that has also been neglected by empirical research so far. Therefore, we will consider organizational tenure and occupational status as potential moderators to further explain the age/resistance to change association.

Beyond looking only at the antecedents of individual resistance to change we will also investigate potential outcomes in terms of behavioral performance measures that may be related to this individual trait. To that end we will likewise introduce resistance to change as a potential mediator in the age/individual performance relationship. By doing so, we also aim to contribute to the age and job performance literature that has produced inconsistent findings so far (McEvoy & Cascio, 1989; Ng & Feldman, 2008). As postulated in the recent meta-analytical paper by Ng and Feldman (2008), an incorporation of mediating mechanisms in the age/performance relationship seems both promising and necessary. Thus, we will test whether resistance to change is related to three different individual performance measures.

## THEORY AND HYPOTHESES DEVELOPMENT

### Individual Age and Resistance to Change

We will use the definition for individual differences of resistance to change coined by Oreg (2003; Oreg et al., 2008) which established a four-facet structure consisting of (a) *routine seeking*, (b) *emotional reaction to imposed change* (c) *short-term focus*, (d) *cognitive rigidity*.

Associating older people with more resistance to change has a long history in organizational research. By 1953, Tuckman and Lorge had already found older people to be subjected to the prejudice that they were less adaptable to changing environments. Similar findings have been reported in more recent studies. Rosen and Jerdee (1977) discovered beliefs among managers that older workers were more resistant to change and less flexible. Weiss and Maurer (2004) recently replicated these findings.

When searching for theoretical arguments underlying these stereotypes, one can look to life and career stages theories. Super's (1980) life stage theory, for instance, suggests that older employees may be more in a maintenance stage of their career and be focused on stability and job security, as opposed to younger employees, who are more in a growth and exploration stage and hence have a longer focus and are more flexible to changes in their work environment. Also, older employees are generally believed to possess more skills, task-specific knowledge, and work experience and therefore have developed more routines in their jobs (Quinones, Ford, & Teachout, 1995). These traits, in turn, might increase routine-seeking in such employees' daily behavior.

On the other hand, Mirvis and Hall argued that "there is no physiological and scant psychological evidence that aging is in any way related to personal adaptability and resistance to change" (1996: 285). Recent empirical results have supported this assertion by reporting no significant effects between individual adaptability at work and age, given the limitation that age was measured only as a categorical variable (O'Connell, McNeely, & Hall, 2008).

As a theoretical argument for these empirical results, neuropsychological research has proven that individuals tend to become more emotionally stable as they age (Williams et al., 2006) and older employees tend to have better emotional regulation capacity and thus report fewer negative emotional experiences (Gross et al., 1997). Furthermore older workers have also been argued to be more efficient at coping with stressors at the workplace, as they may be more inclined to compare their outcomes only with those of similar-aged peers with whom they share status and fate (Hansson, Robson, & Limas, 2001). These findings imply that older employees should at the very least have a better capability to cope emotionally with changes occurring in their environments.

Given the competing theoretical arguments, the limited number of empirical studies, and the mixed results, it seems not reasonable for us to formulate a directed hypothesis for the relationship between individual age and resistance to change. Furthermore, we believe a primary contribution of our paper lies in confirming or rejecting the common prejudice of a positive relation between employees' age and their resistance to change, and that a secondary contribution lies in finding potential moderators that better explain this vague relationship. Therefore we propose the following research question:

*RI*: What is the association between age and individual differences in resistance to change?

## **Interaction Effects**

*Age and tenure interaction.* Based on several theoretical arguments organizational tenure seems to be a plausible positive boundary condition for the age/resistance change relationship. First, career research suggests that employees stay at a company if they are satisfied and have few job alternatives (Griffeth, Hom, & Gaertner, 2000). As organizational change is often associated with an alteration of an individual's work situation, employees who are satisfied and have fewer job alternatives are more likely to oppose these transformations (van Dam, Oreg, & Schyns, 2007). Additionally, as employees gain tenure in their job they are making long-term investments in their work situation by acquiring specific skills and knowledge or by participating in certain development or retirement programs (Rusbult & Farrell, 1983) that may be at risk as a result of change initiatives (van Dam et al., 2007). Therefore we assume:

*H1:* Employee organizational tenure positively moderates the relationship between age and resistance to change, such that the effect is more positive under a condition of long organizational tenure than under a condition of short organizational tenure.

*Age and occupational status interaction.* It might also be possible that an employee's occupational status may be a relevant boundary condition for the relationship between individual age and resistance to change. Prior research has indicated that employees in mainly administrative and management positions (white collar workers) possess more autonomy in their work and have more challenging tasks than workers occupied with routine standardized production tasks (blue collar workers) (e.g. Randall, 1990). In blue collar jobs, workers also often have low levels of control over their work, fewer complex responsibilities, and a lower level of task ambiguity than their white collar colleagues (Toppinen-Tanner, Kalimo, & Mutanen, 2002). Gradman (1994) also proposes that higher occupational status may lead to greater communication ability and role flexibility.

Those lines of reasoning may be framed as an argument for a higher resistance to change on the part of older employees who work in blue collar jobs. Highly routinized tasks that are less cognitively challenging and thus reduce the flexibility to deal with changing situations and environments may lead to a more pronounced effect of age on resistance to change. Based on this logic, we offer the following:

*H2:* Employee occupational status moderates the relationship between age and resistance to change, such that the effect is more positive for blue collar workers than for white collar workers.

## **Individual Performance Consequences of Resistance to Change**

*Resistance to change and goal fulfillment.* Given prior conceptualizations and empirical research we think it is plausible to assume a negative relationship between resistance to change and individual effectiveness, measured via successful task accomplishment. Oreg (2003), for example, found that individuals who are resistant to change showed an increased difficulty in working effectively. Similar results were reported by Kirkman and Shapiro (2001) who found such resistance to be negatively associated with job satisfaction and individual commitment. These findings may be attributable to the lack of support, communication and participation that employees perceive when they are resistant to change (e.g. Schalk, Campbell, & Freese, 1998). Employees with high resistance may even experience a break of the psychological contract with the company (Kiefer, 2005) due to change initiatives that endanger their resources or their status

at work. It seems obvious that given these circumstance optimal individual performance is not possible.

*H3a:* Resistance to change is negatively related to employees' successful goal fulfillment.

*H3b:* The relationship between age and employees' goal fulfillment is mediated by employees' resistance to change.

*Resistance to change and ideas for improvement.* From a rational point of view it seems to be very convincing that resistance to change should be related to the voluntary change behavior of the employee. In his scale development paper, Oreg (2003) reports a first confirmation of this assumption. He discovered resistance to change to be an important factor for students declining to change their course schedules.

Similarly, one can suggest that in real work settings, employees who have a short-term focus, are cognitively rigid, and are inclined toward routine seeking in their work behavior, are little motivated to contribute to the continuous improvement of their workplace themselves. Their thinking, emotional state, and behavior tend to be directed toward defending the status quo rather than developing new ideas. For our study we thus argue that the number of ideas for improvement an individual employee generates is associated with his or her resistance-to-change score. Employees with high resistance to change should be much less creative in developing concepts for improvement of tasks and work processes compared to employees with low levels of opposition to changing conditions in their work environment. Therefore we assume the following hypotheses:

*H3c:* Resistance to change is negatively related to the number of ideas generated by an employee.

*H3d:* The relationship between age and the number of ideas generated by an employee is mediated by the incidence of resistance to change.

*Resistance to change and absenteeism rate.* Finally, we also argue for a potential linkage between resistance to change and the absenteeism rate due to health problems of an individual employee. As mentioned above, employees who are resistant to change may experience negative emotions correlated with change processes in their organizations (Kiefer, 2005). Those negative emotions may cause psychological contract breaches that have been reported to be related to withdrawal behavior, decreased loyalty to the organization and increased absenteeism (Lo & Aryee, 2003; Turnley & Feldman, 1999). Johnson and O'Leary Kelly (2003), for instance, found psychological contract breaches directly related to absenteeism behavior in a sample of bank employees. Drawing on these theoretical explanations we propose:

*H3e:* Resistance to change is positively related to absenteeism days per employee.

*H3f:* The relationship between age and absenteeism days per employee is mediated by the incidence of resistance to change.

## METHOD SECTION

### Sample

Data for the present study were collected in spring 2009 from a sample pool of employees in 93 German firms. Those firms took part in larger benchmarking study that was organized by the authors in collaboration with an agency in Germany. To be a part of the study companies had to meet the criteria of being located in Germany and of not exceeding 5,000 employees.

Participating companies came from a number of industries, including services (65%), manufacturing (20%), trade (10%), and finance and insurance (6%). Their sizes ranged from 19 - 3,269 employees with a mean of 237, and they had 30,061 employees overall. Thus, we had available a heterogeneous sample of companies.

Resistance to change was measured with the scale developed by Oreg (2003). All other items (demographics and performance measures) were measured by asking respondents single items of different scale formats.

## **Analytical Procedures**

We applied structural equation modeling (SEM) procedures with maximum likelihood procedures to test our hypotheses in the moderated mediation model. The statistical software package Amos 17 was used for our analyses as proposed by Ng and Feldman (2008) to test for mediating processes in the age/job performance relationship.

To account for the mediation and moderated-mediation effects, we followed the recommendation by Cheung and Lau (2008) and James, Mulaik and Brett (2006), and applied bootstrapping procedures to test for the significance of indirect effects.

## **RESULTS**

### **Structural Model**

As the main part of the analysis we examined the structural portion of our specified model. The indices for the overall model indicate a good fit of the model to the data (CFI = .907, GFI = .951, RMSEA = .043). All three values lie within the range for a sufficient model fit.

Research question 1 inquired as to the nature of the relationship between an employee's age and resistance to change. Our results show a negative relationship between those two variables ( $\beta = -.10, t = -3.83, p < .001$ ). This finding indicates that older people in our sample seem to be less resistant to change than their younger colleagues.

In a further step we also tested for proposed interaction relationships. Hypothesis 1 proposed a positive moderation of organizational tenure on the relationship of age and resistance to change. The structural model results support this assumption, showing a positive significant effect of the residual standardized product term on resistance to change ( $\beta = .07, t = 3.58, p < .001$ ). The overall model fit also increases significantly when adding the interaction term ( $\Delta x^2 = -13.40$ ).

Hypothesis 2 predicted a moderation of occupational status on the age/resistance-to-change linkage and is confirmed by our data. We observe both a significant negative effect size ( $\beta = -.05, t = -2.55, p < .001$ ) and an overall model improvement ( $\Delta x^2 = -6.63$ ).

We also received support for all hypotheses that argued for a relationship of resistance to change and the three outcome variables. Confirming Hypothesis 3a, resistance to change is negatively related to the percentage of successful goal accomplishment by the individual employee ( $\beta = -.16, t = -7.10, p < .001$ ). Supporting Hypothesis 3c, resistance to change are also negatively linked with the numbers of ideas for improvement generated by the individual employee ( $\beta = -.10, t = -4.80, p < .001$ ). Lastly, yielding support for Hypothesis 3e, we also observe the expected positive relationship between an employee's resistance to change and reported days of absenteeism ( $\beta = .09, t = 4.07, p < .001$ ).

Since the relationship between age and resistance to change as well as all linkages between resistance to change and the three outcome variables were significant, we tested for a potential mediation effect by applying bootstrapping procedures (Cheung & Lau, 2008), which supported all three mediation hypotheses (3b, 3d, 3f).

## **DISCUSSION**

Following a direct call by Posthuma and Campion (2009), the main aim of this study was to generate evidence on the relationship between employees' age, and their resistance to change. This relationship is often assumed to be positive due to common stereotypes existing in the workplace (e.g. Chiu et al., 2001; Van Dalen et al., 2009; Weiss & Maurer, 2004). Secondly, we also sought to contribute to the age/job performance literature (McEvoy & Cascio, 1989; Ng & Feldman, 2008) by introducing resistance to change as a potential mediator in the age/job performance relationship.

As to the first research question, we surprisingly observe a negative linkage between age and individual resistance to change, implying that younger employees in our sample were more resistant to change than their older colleagues, strongly rejecting the common stereotype that expects the relationship to be the other way around.

These results seem to be counterintuitive and surprising at first glance. Explanations might primarily be taken from the arguments provided in the theory section of the paper. Older employees might be more emotionally stable and better capable of coping with their negative emotional reactions related to change (Gross et al., 1997; Williams et al., 2006).

Through testing two potential interaction effects we were able to shed some more light on the so far vague age/resistance-to-change relationship. We were able to confirm our expectations for the tenure and occupational status interaction. Thus, having a longer organizational tenure and being a blue collar worker are positive boundary conditions for the relationship between age and resistance to change. In other words companies would do well to take steps to ameliorate the effect of having many old blue collar workers or workers with both high tenure and age in their workforce.

We also showed resistance to change to be related to several individual performance measures. Our results hint that individual resistance to change has negative consequences, including lower task efficiency, fewer new ideas, and even a higher absenteeism rate due to health problems. Finally, we also established resistance to change as a mediator in the relationship between age and individual performance outcomes, and thus made a valuable contribution to the age-performance literature (Ng & Feldman, 2008). Older employees seem to be better performers in terms of increased idea generation, better goal fulfillment, and decreased absenteeism through the mediating factor of resistance to change. Thus, resistance to change seems to be a relevant mediating mechanism to explain why age matters to job performance.

**REFERENCES ARE AVAILABLE FROM THE AUTHORS**

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