Job Crafting Towards Strengths and Interests:

The Effects of a Job Crafting Intervention on Person-Job Fit and the Role of Age

Dorien T.A.M. Kooij¹, Marianne van Woerkom¹, Julia Wilkenloh², Luc Dorenbosch³, and Jaap J.A. Denissen¹

¹Tilburg University, ²Erasmus University Rotterdam, ³Debaaningenieurs.nl


Author Note

Dorien Kooij, Department of Human Resource Studies, Tilburg University. Marianne van Woerkom, Department of Human Resource Studies, Tilburg University. Julia Wilkenloh, Department of Work and Organizational Psychology, Erasmus University Rotterdam. Luc Dorenbosch, debaaningenieurs.nl. Jaap Denissen, Department of Developmental Psychology, Tilburg University. Luc Dorenbosch co-developed the digital tool used in the intervention and also sells this tool to others. However, he did not play a direct role in the study design or data analyses. We thank Sanne Netten, Dominique Roost and Jacqueline Boumans for leading the workshops and for help with collecting the data.

This research was funded by a VENI grant (016.145.218) of the Dutch Organization for Scientific Research.

Correspondence concerning this article should be addressed to Dorien Kooij, Department of Human Resource Studies, Tilburg University, Warandelaan 2, 5037 AB, Tilburg, the Netherlands, e-mail: t.a.m.kooij@uvt.nl.
Abstract

We introduce two novel types of job crafting – crafting towards strengths and crafting towards interests – that aim to improve the fit between one’s job and personal strengths and interests.

Based on Berg, Dutton, and Wrzesniewski (2013), we hypothesized that participating in a job crafting intervention aimed at adjusting the job to personal strengths and interests leads to higher levels of job crafting, which in turn will promote person-job fit. Moreover, we hypothesized that this indirect effect would be stronger for older workers compared to younger workers. Results of an experimental field study indicated that participating in the job crafting intervention leads to strengths crafting, but only among older workers. Strengths crafting was, in turn, positively associated with demands-abilities and needs-supplies fit. Unexpectedly, participating in the job crafting intervention did not influence job crafting towards interests and had a negative effect on crafting towards strengths among younger workers. However, our findings suggest that some types of job crafting interventions can indeed be an effective tool for increasing person-job fit of older workers.

*Keywords*: job crafting, person-job fit, field experiment, individual strengths, aging
Job Crafting Towards Strengths and Interests:

The Effects of a Job Crafting Intervention on Person-Job Fit and the Role of Age

Person-job fit (PJ-fit) is a critical predictor of a range of important worker outcomes. A meta-analysis by Kristof-Brown, Zimmerman, and Johnson (2005) clearly documented that PJ-fit is predictive not only of how employees feel about their job and employer, but also their overall engagement and performance in their jobs. Indeed, other research about the association between PJ-fit and attitudes (e.g., Greguras & Diefendorff, 2009), performance (e.g., Asfar, Badir, & Kahn, 2015), and personal well-being (e.g., Park, Monnot, Jacob, & Wagner, 2011) similarly suggests that optimizing PJ-fit should be a significant priority for organizations and employees. Surprisingly, however, there are only a few studies that examine antecedents of PJ-fit and most of these focus particularly on the selection of job applicants (Ehrhart, 2006). While this may promote initial levels of PJ-fit, it does not guarantee that job incumbents will continue to experience PJ-fit as their motives and abilities change and the knowledge, skills, and abilities required to do their jobs evolve. Also, the few studies that examine post-hire factors associated with PJ-fit are mainly based on cross-sectional data (e.g., Boon, Den Hartog, Boselie, & Paauwe, 2011), and therefore do not provide insight into interventions that can increase PJ-fit.

What is needed, we argue, is twofold: a better understanding of how employees can themselves contribute to higher levels of PJ-fit, and an intervention-based research design that allows for an appropriate assessment of the effectiveness of these efforts. Toward this end, we focus on employee job crafting, which refers to the self-initiated changes that individuals make in the task boundaries of their work that are aimed at improving PJ-fit (Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001). In particular, we use job crafting theory as a theoretical framework that may explain how organizational practices (providing a job crafting workshop)
and subsequent individual actions (job crafting behavior) may impact perceived levels of PJ-fit, and we assess the utility of a job crafting intervention for improving employees’ experiences of PJ-fit. Further, based on the literature on personality development over the lifespan, we expect that age serves as an important moderator of the effectiveness of our job crafting intervention for two reasons. First, research suggests that as people age, they gain more insights in their identity, strengths, and interests, and have an increased tendency to create environments that fit these strengths and interests (Caspi, Roberts, & Shiner, 2005). Second, research shows that aging individuals become more dominant, self-confident, conscientious, and self-controlling (Roberts, Walton, & Viechtbauer, 2006), and therefore possibly more capable of job crafting.

Our intended contributions to the literature are as follows. First, we build on existing correlational studies on the positive association between job crafting and PJ-fit (e.g., Tims, Derks, & Bakker, 2016) to offer the first experimental test of whether a job crafting intervention can be used to enhance PJ-fit. Second, whereas existing conceptualizations of job crafting have predominantly framed job crafting in terms of the changes that employees make in their job demands and job resources in order to improve their psychological well-being (e.g., Tims et al., 2012), we wanted to examine job crafting as a mechanism for employees to enhance their PJ-fit by aligning their jobs with their personal resources (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013) as was originally intended by Wrzesniewski and Dutton (2001). Therefore, we conceptualized job crafting in terms of employees’ initiative to adapt their job to their personal strengths and interests. Finally, our paper adds to the still limited knowledge about individual factors (i.e., age) that moderate the effectiveness of job crafting interventions (Demerouti, 2014).

Job Crafting Towards Strengths and Interests
Ever since the concept of job crafting was introduced by Wrzesniewski and Dutton (2001), numerous studies have been published on this topic, with the predominant focus being on job crafting in terms of changing job demands and job resources aimed at improving psychological well-being (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims et al., 2012). However, Wrzesniewski et al. (2013) noticed that scant research has examined the job crafting behaviors that are particularly aimed at adapting job tasks so that they match personal resources of the employee. Accordingly, they urged researchers to incorporate employees’ motives, strengths, and passions in the job crafting concept. Similarly, Berg et al. (2013) emphasized that to create a better PJ-fit employees should focus on their "motives, strengths, and passions" (p. 13) when crafting their jobs.

Personal strengths refer to unique characteristics that allow a person to perform at his or her personal best (Wood, Linley, Maltby, Kashdan, & Hurling, 2011) and that make people good at specific tasks (Biswas-Diener, Kashdan, & Minhas, 2011). Strengths need to be understood at the within-person level, meaning that every person possesses certain strengths, regardless of whether others possess a particular strength more or less than the focal individual (Roberts, Dutton, Spreitzer, Heaphy, & Quinn, 2005). Job crafting towards strengths refers to the self-initiated changes that individuals make in the task boundaries of their work to make better use of their strengths. For example, a business consultant with a strength in building relationships may craft her task of selling consulting services in such a way that she engages more often in one-on-one dialogues with individual clients instead of presenting to large audiences.

Another personal characteristic that employees may use to guide their crafting effort is their personal interests (Berg et al., 2013; Wrzesniewski, Rozin, & Bennett, 2002). Dawis (1991) defines interests as “specific activities and objects through which to attain values and meet
needs” (p. 883). Similarly, Kandler, Zimmermann, and McAdams (2014) refer to interests as objects and activities into which people are motivated to invest their energy and time. In line with these definitions, we conceptualize interests as essential features of one’s identity that serve to define the person (Holland, 1997; McCrae & Costa, 2008), including motives, needs, and values. For instance, individuals with a strong interest for playing the guitar do not merely play the guitar; they are ‘guitar players’ (Vallerand et al., 2003). One particular behavior reflecting job crafting towards interests is to actively look for tasks that match one’s interests. For example, a history teacher who has an interest in music may incorporate music in her teaching or collaborate with a colleague who teaches music (Berg et al., 2013).

**The Influence of an Intervention on Job Crafting Towards Strengths and Interests**

In contrast to top-down interventions that are initiated by management to promote PJ-fit (e.g., selecting job applicants who match the requirements of the job), a job crafting workshop provides a bottom-up intervention that helps individuals to understand how to deconstruct their job tasks, identify their strengths and interests, and then find meaningful ways to improve alignment between their tasks on the one hand and their personal strengths and interests on the other. Because content relevance, goal-setting, and practice enhance transfer of training (Burke & Hutchins, 2007), participants of a job crafting intervention should conduct their own analysis of potential person-job misfit and set their own personal goals to improve their PJ-fit. We hypothesize that a job crafting intervention that meets such requirements will have a positive effect on job crafting behavior (see also Berg et al., 2013).

*Hypothesis 1:* Employees participating in the job crafting intervention develop higher levels of (a) job crafting towards strengths and (b) job crafting towards interests after the intervention compared to employees in the control group.
The Influence of Job Crafting on Person-Job Fit

PJ-fit refers to the alignment between a person’s characteristics (e.g., knowledge, abilities, needs, and preferences) and the characteristics of the job or tasks (e.g., requirements, demands and supplies) that are performed at work (Edwards, 1991; Kristof-Brown et al., 2005). Since the main aim of job crafting is to improve PJ-fit (Wrzesniewski et al., 2013) and several correlational studies have found that job crafting indeed improves PJ-fit (Chen, Yen, & Tsai, 2014; Lu, Wang, Lu, Du, & Bakker, 2014; Tims et al., 2016), we hypothesize the following:

**Hypothesis 2:** There is a positive association between (a) job crafting towards strengths and (b) job crafting towards interests and person-job fit.

We expect that job crafting behavior fully mediates the association between the job crafting intervention and PJ-fit. The job crafting intervention is aimed at stimulating job crafting towards strengths and interests. We therefore expect that the crafted job will better match the participants’ strengths and interests, and therefore that PJ-fit will improve.

**Hypothesis 3:** The positive effect of participation in the job crafting intervention on person-job fit is mediated by (a) employee job crafting towards strengths and (b) employee job crafting towards interest.

The Moderating Role of Age

Based on the literature on personality development over the lifespan, we expect that relatively older workers will benefit more from a job crafting intervention than relatively younger workers. This literature suggests that over the lifespan, individuals learn more about their own strengths and weaknesses (Bosma & Kunnen, 2001) as they deal with “a series of problems, challenges, or life-adjustment situations that come from biological development, social expectations, and personal action” (Baltes, 1987, p. 614). As they do, they proactively
select or create trait-related experiences that deepen, refine, elaborate, and stabilize their (professional) identity (e.g., Roberts & Caspi, 2003). Hence, with aging, individuals develop stronger and clearer (professional) identities and get more insights in their strengths and interests and therefore become more able and motivated to play to these (e.g., Helson, Stewart, & Ostrove, 1995). Further, this literature proposes that age-based roles (e.g., work, marriage) bring with them changing expectations about how one should act and possibly change (e.g., Specht, Bleidorn, & Denissen et al., 2014). As a result of this ‘maturity principle,’ most individuals become more dominant, responsible, self-confident, conscientious, and self-controlling over the lifespan, as has been supported by a meta-analysis of 92 studies (Roberts et al., 2006). Indeed, aging individuals become better equipped to attain developmental tasks and to achieve their goals (Caspi et al., 2005; Staudinger & Bluck, 2001), and are therefore, we reasoned, better able to job craft. In sum, based on the literature on personality development over the lifespan we expect that older workers are more able and motivated to craft their job in line with their strengths and interests, and are thus more responsive to a job crafting intervention.

_Hypothesis 4:_ Age moderates the relationship between participation in a job crafting intervention and (a) job crafting towards strengths and (b) job crafting towards interests in such a way that older employees respond to the job crafting intervention with higher levels of job crafting compared to younger employees.

Moreover, building on our hypotheses that the job crafting intervention has an indirect effect on PJ-fit via job crafting behavior and that age moderates the relationship between the job crafting intervention and job crafting behavior, we propose a moderated mediation effect. Because older workers are more mature and certain about and committed to their identity, they might be more motivated and capable of job crafting. Therefore, older workers are expected to
respond more strongly to the intervention compared to younger employees, and their higher levels of job crafting will in turn be associated with greater improvements in their PJ-fit compared to their younger colleagues.

Hypothesis 5: The indirect positive effects of participation in a job crafting intervention on person-job fit via (a) job crafting towards strengths and (b) job crafting towards interests are stronger for older employees compared to younger employees.

Method

Participants and Procedure

Participants were employees working for different departments of a Dutch health insurance company. Potential participants were invited via email for a presentation about the workshop or were recruited through a message on the company’s intranet. Participation in the job crafting workshop was voluntary and participants were not paid. The study took place over a period of eight weeks in total. Participants who agreed to take part in the study were initially randomly assigned to either a waiting list control condition or the experimental condition. However, for twelve participants random assignment was not achieved due to scheduling conflicts. These participants were allowed to switch conditions, resulting in two participants switching from the control to the experimental group and ten participants switching from the experimental to the control group. Participants in the control group participated in the workshop after the study. We reduced the possibility of contamination by explicitly asking participants in the experimental group not to talk about the workshop with their colleagues. Although we did not need to submit our study to an IRB according to university policies at the time our study was conducted, we complied with APA’s policy of ethical treatment of participants.
At the start of the study (Week 1 and 2), both groups received an invitation via email with a link to the first online questionnaire. This questionnaire addressed demographics, educational level, general questions about work, and included a pre-test (T1) for job crafting and PJ-fit. A total number of 86 participants, holding jobs such as administrator, manager, and policy worker took part in this questionnaire ($n = 31$ in the experimental group and $n = 55$ in the control group). Of these participants, 77.9% were female, which is similar to the population of the company in which 67.8% are female. The average age of the participants was 32.16 years ($SD = 6.82$). Most of the participants had a Bachelor (52.3%) or Master degree (33.7%). Furthermore, participants had an average job tenure of 3.03 years ($SD = 3.27$). More details of the demographic characteristics of the participants are shown in Table 1. In week 3, the experimental group participated in a four-hour job crafting workshop in groups of up to ten employees led by trained research assistants. In the hands-on workshop, participants used an online tool comprised of seven different steps (see also Van Vuuren & Dorenbosch, 2011; Dorenbosch, 2014). The online application and the workshop were designed to standardize the process of visualizing concrete person-job (mis)fits (see also Taber & Alliger, 1995; Berg, et al., 2013) and directed participants to formulate a personal action plan for improving their PJ-fit such that participants themselves were in control of the job crafting goals and actions that they saw as relevant and attainable for shaping a better fitting job.

In step one, participants identified all the tasks they perform at work. In the second step, they classified these tasks as small, medium, or large depending on how much time they spend weekly on each task. In the third step, participants explored the dynamic nature of their jobs by classifying tasks either as “traditional tasks” which were already part of the job when they started working in this position, or “new tasks” which were added later on; they also indicated whether
the time they spent on each task had decreased or increased over time. In the fourth step, next to identifying work-related well-being risks, participants indicated their top three personal strengths and three of their most important interests and needs. Subsequently, in step 5, participants indicated in which of their work tasks their strengths and interests were best reflected. In the sixth step, participants identified which tasks they would like to keep in the near future and received a computer-generated overview of all previous steps. Based on this, they chose three important work tasks that they would like to craft to align their job better with their personal strengths and interests. In the seventh step, participants were asked to formulate one short-term and concrete job crafting goal and to come up with a plan to accomplish it within four weeks.

The workshop leaders gave personalized feedback and ensured that goals were SMART (i.e., Specific Measurable Achievable Realistic and Time bound (Frates, Moore, Lopez, & McMahon, 2011). In addition, they asked participants to verify that their job crafting actions would not compromise their individual well-being (e.g., by taking on too many tasks). As job crafting behaviors, participants could opt to 1) change the task itself, 2) change the way of working on the task by learning new skills, 3) increase the time they would spend on a task, or 4) decrease the time they would spend on a task (e.g., by asking a colleague to take on parts of this task). Job crafting goals of participants involved, for example, expanding interesting tasks (e.g., coaching colleagues or searching for effective ways to charge medical costs), swapping tasks with colleagues, and taking on new tasks that suit their strengths (e.g., designing software). Two weeks after the completion of the workshop (in week 6), the workshop leaders phoned the participants to discuss the accomplishment of their goals and to address any inhibiting factors. Finally, in weeks 7 and 8, a post-test questionnaire (T2) was sent to the experimental and control group to measure changes in job crafting and PJ-fit.
**Measures**

**Person-Job fit.** PJ-fit was measured with the six item scale developed by Cable and DeRue (2002). All items were scored on a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). In line with the distinction between demands-abilities fit (DA-fit) and needs-supplies fit (NS-fit; Cable & DeReu, 2002), confirmatory factor analyses revealed good fit for the two-factor model (T1: $\chi^2(8) = 25.91$, Comparative Fit Index (CFI) = .96, Standardized Root Mean Square Residual (SRMR) = .04; T2: $\chi^2(8) = 30.63$, CFI = .92, SRMR = .08), which was significantly better than the fit of a one-factor model (T1: $\Delta\chi^2(1) = 42.02$, $p < .001$; T2: $\Delta\chi^2(1) = 32.74$, $p < .001$). Therefore, we created two separate scales consisting of three items each: DA-fit (e.g., “There is a good fit between the demands of my job and my personal abilities”; T1: $\alpha = .77$; T2: $\alpha = .81$), and NS-fit (e.g., “My current job offers everything what I expect from a job”; T1: $\alpha = .90$; T2: $\alpha = .89$).

**Job crafting.** Job crafting was measured with a self-developed scale to capture both crafting towards strengths (JC-strengths) and crafting towards interest (JC-interests). First, a pool of ten items, equally covering both types of crafting behavior was developed and tested on a separate sample of 136 employees working across a variety of organizations and occupations. In line with other job crafting scales (e.g., Tims et al., 2012) and scales measuring personal initiative (e.g., Frese, Fay, Hilburger, Leng, & Tag, 1997) and proactive personality (e.g., Bateman & Crant, 1993), we used terms such as “I organize,” “I try,” “I (actively) look for,” and “I make sure” to measure self-initiation. After deleting one item that loaded on a third factor, an exploratory factor analysis indicated that the remaining nine items loaded on two factors, with eigenvalues greater than one. Together, these factors accounted for 63.50 percent of the variance. Therefore, in the current study we used these 9 items to measure JC-strengths (4 items; e.g., “I
organize my work in such a way that it matches with my strengths”; T1: $\alpha = .78$; T2: $\alpha = .74$) and JC-interests (5 items; e.g., “I actively look for tasks that match my own interests”; T1: $\alpha = .85$; T2: $\alpha = .83$). All items were scored on a seven-point scale (ranging from 1 = Never to 7 = Always). Confirmatory factor analyses revealed that the fit of this two-factor model was acceptable (T1: $\chi^2(26) = 68.18$, CFI = .92, SRMR = .06; T2: $\chi^2(26) = 78.48$, CFI = .85, SRMR = .09), and significantly better than the fit of a one-factor model (T1: $\Delta \chi^2(1) = 62.86$, $p < .001$; T2: $\Delta \chi^2(1) = .23.79$, $p < .001$). Factor loadings at T1 and T2 are shown in Table 2. To further investigate our scale, we also measured job crafting with an existing scale aimed at adjusting job demands and job resources (Petrou et al., 2012) and demonstrated with regression analyses that JC-strengths explained significant unique variance in DA- and NS-fit and that JC-interests explained significant unique variance in DA-fit at Time 1, after controlling for existing job crafting scales.

**Control variables.** We controlled for highest completed level of education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university) because educational level differed significantly between the experimental and control group (see Table 1). We also controlled for participants’ age (in Hypotheses 4 and 5), and for JC-strengths, JC-interests, NA-fit and DA-fit at T1, meaning that regression coefficients can be interpreted as indicating that a predictor was associated with changes in the dependent variables.

**Analyses**

We first checked for pre-intervention differences between the intervention and waitlist control group on our focal variables. A one-way ANOVA indicated no significant differences on age, $F(1,84) = 2.23$, $p = .14$; JC-strengths, $F(1,84) = .43$, $p = .51$; DA-fit, $F(1,84) = .01$, $p = .91$;
and NS-fit, $F(1, 84) = .57, p = .45$. There were however significant differences between the mean scores on the baseline levels of JC-interests, with the experimental group having higher initial levels of JC-interests ($M = 3.94, SD = .14$) than the control group ($M = 3.48, SD = .97$), $F(1, 84) = 4.87, p < .05$. All analyses were conducted using IBM SPSS Statistics (Version 22) and the SPSS application PROCESS (Hayes, 2013). We conducted regression analyses to assess the relationships between the job crafting intervention and job crafting (Hypothesis 1) and the relationship between job crafting and PJ-fit (Hypothesis 2). To test the mediation effect of job crafting in the relationship between the intervention and PJ-fit (Hypothesis 3), we utilized bootstrapping (Shrout & Bolger, 2002; Model 4 within PROCESS) as suggested by MacKinnon, Fairchild, and Fritz (2007). Furthermore, to test the possible moderation effect of age on the relationship between the intervention and job crafting (Hypothesis 4), we conducted moderation analyses (Model 1 within PROCESS). To investigate the indirect effect of the intervention on PJ-fit with age as a moderator (Hypothesis 5), we again used bootstrapping within PROCESS (Model 7).

**Results**

Table 3 presents the means, standard deviations, and correlations of the study variables. This table reveals that there were no significant correlations between the intervention (dummy-coded; 0 = no intervention, 1 = intervention) and job crafting and PJ-fit at T2. JC-strengths at T2 was positively correlated with NS- and DA-fit at T2 ($r = .29, p < .01$ and $r = .36, p < .01$, respectively) and JC-interests at T2 was positively correlated with NS- and DA-fit at T2 ($r = .24, p < .05$ and $r = .34, p < .01$, respectively).

Table 4 shows the results of the regression analyses to test Hypothesis 1. As can be seen in Table 4, the intervention did not have a significant effect on JC-strengths at T2 ($B = -.18, p =$
Table 5 shows that there was a positive association between JC-strengths at T2 and NS-fit at T2 ($B = .21, p < .05$), between JC-interests at T2 and NS-fit at T2 ($B = .22, p < .01$), and between JC-strengths at T2 and DA-fit at T2 ($B = .18, p < .05$). However, there was no significant association between JC-interests at T2 and DA-fit at T2 ($B = .10, p = .17$). Therefore, Hypothesis 2a was supported while Hypothesis 2b was partly supported. Hypothesis 3 predicted that the intervention would have a positive effect on PJ-fit via job crafting behavior. However, because the intervention did not influence job crafting behavior, Hypothesis 3 was not supported.

Table 6 reports the results of the moderation analysis and showed that age was a significant moderator of the relationship between the intervention and JC-strengths at T2 ($B = .08, p < .001$, $R^2\Delta = .08$, df $\Delta = 1$), but not of the relationship between the intervention and JC-interests at T2 ($B = .04, p = .32$). Simple slope analyses indicated that the workshop had a negative effect on JC-strengths for younger workers (i.e., 1 SD below mean age; $B = -.60, p < .01$) but a positive effect for older workers (i.e., 1 SD above mean age; $B = .42, p < .05$), supporting Hypothesis 4a but not Hypothesis 4b. Table 7 presents the results of the moderated mediation analysis to test Hypothesis 5a, pertaining to JC-strengths. The indirect effect of the intervention on NS-fit at T2 via JC-strengths at T2 was significantly negative for younger workers ($B = -.12, SE = .07, 95\% CI: [-.33, -.02]$) but positive for older workers as expected ($B = .10, SE = .05, 95\% CI: [.01, .21]$). Table 8 presents the results of a moderated mediation analysis to test Hypothesis 5a with DA-fit as the dependent variable. The indirect effect of the job crafting intervention on DA-fit at T2 via JC-strengths at T2 was significantly negative for younger employees ($B = -.10, SE = .06, 95\% CI [-.30, -.01]$) but positive for older employees ($B$
supporting Hypothesis 5a. Because age did not moderate the relationship between the intervention and JC-interests, Hypothesis 5b was not supported.

**Discussion**

This study introduced two novel types of job crafting; crafting towards strengths (JC-strengths) and crafting towards interests (JC-interests). In addition, we tested a job crafting intervention aimed at stimulating participants to craft their job in order to improve its fit with their personal interests and strengths. We found initial evidence for a positive indirect effect of the job crafting intervention on person-job fit via JC-strengths among older workers.

Although we expected that the job crafting intervention would be more beneficial for older workers, we did not expect to find a negative effect of the job crafting intervention on JC-strengths and in turn on PJ-fit for younger workers. A speculative explanation for this unexpected effect might be that younger employees react differently to the increased awareness of a potential PJ-misfit induced by the job crafting workshop. As younger employees are less dominant, self-confident, conscientious, and self-controlling (Robert et al., 2006) and more likely to engage in learning (Maurer, 2001), they may tend to use skill development as a way of addressing their PJ-misfit, leading to a lower need to engage in job crafting behavior than before the intervention. However, we cannot substantiate this explanation with our data and future research will have to shed more light on this issue. Besides the unexpected effects on younger workers, we also did not find that the job crafting intervention was more beneficial for older employees’ level of JC-interests. Possibly, since older workers are more loyal and committed to the organization (Ng & Feldman, 2010) and more likely to engage in organization citizenship behavior (Ng & Feldman, 2008), the job crafting intervention motivated them to make better use of their strengths to serve their organization, but did not encourage them to make changes to try...
to make their jobs more interesting. Finally, although JC-strengths was positively related to both NS- and DA-fit, JC-interests was only positively related to NS-fit. Possibly, the activities that employees find interesting are not necessarily those they are good at, especially not for employees with a strong growth mindset (Dweck, 2006).

**Theoretical contributions**

This study contributes to the job crafting and PJ-fit literature in two ways. First, we conceptualized job crafting as JC-strengths and JC-interests. Previous studies have conceptualized and measured job crafting mainly in terms of adjusting job demands and job resources (e.g., Tims et al., 2012) or changing task or relational boundaries in general (e.g., Leana, Appelbaum, & Shevchuk, 2010). Although crafting these aspects of the job is important, it does not necessarily improve the fit between personal resources and the job (Berg et al., 2013). Our study shows that JC-strengths and JC-interests are positively related to PJ-fit, and that our new scales explain additional variance in PJ-fit when controlling for existing job crafting scales.

Second, building on our conceptualization of job crafting as JC-strengths and JC-interests, we developed a job crafting intervention aimed at improving the fit between the job and personal strengths and interests, and provided initial evidence that this job crafting intervention increases JC-strengths, and in turn increases PJ-fit of older employees. Besides providing initial evidence for the effect of job crafting on PJ-fit based on an experimental design, we contribute to the job crafting literature by revealing age as a critical condition that moderates the effect of the job crafting intervention. As employees age, they gain more insights in their strengths and interests and develop a tendency to create environments that fit their identity. In addition, older employees are more dominant, self-confident, conscientious, and self-controlling (Roberts et al., 2006), perhaps making them more motivated and capable to job craft.
Limitations and Future Research

Although the experimental design is an important strength of our study, our study also has some limitations. First, because the control group in our study received no intervention we cannot be sure whether the effects of the job crafting intervention were due to an intervention or to this particular intervention. However, we opted to offer no training rather than training with alternative content (i.e., something other than job crafting) because we knew that our participants were particularly interested in the job crafting workshop, and worried that offering another workshop to the control group might have discouraged them from participating in our study (Street & Luoma, 2002). Also, the waitlist-control design is the most appropriate design when the intervention takes place over a relatively short period of time (Hart, Fann, & Novack, 2008), which was the case in our study. Nevertheless, future research should aim to better isolate the content of a job crafting intervention as the active ingredient in the intervention.

Another limitation of our study is that some participants switched between the experimental group and the control group due to scheduling conflicts. In the lack of full random assignment we cannot rule out the fact that some unmeasured individual differences, such as differences in motivation to attend the training, affected the results of the study. However, analyses on the sub-sample of participants that were randomly assigned were in line with the results reported in our paper. In addition, potential covariates, such as autonomy, intrinsic motivation, and proactive personality, did not differ significantly between the experimental and control group. Also, when conducting a binomial logistic regression predicting the probability that a respondent is part of the experimental group or the control group, none of these covariates had a significant effect. In addition, our study focused particularly on task crafting, whereas
Wrzesniewski and Dutton (2001) also distinguished relational and cognitive crafting. Therefore, future intervention studies could include relational and cognitive crafting as well.

Third, although our findings are based on a sample of employees working in a variety of jobs, participants were relatively young and recruited from one organization. Future research should thus further examine the role of age within a broader age range and in different sectors. It should also be noted that our study had relatively low power to detect moderator effects, so the interactions with age must be replicated in other samples before firm conclusions can be drawn.

Finally, the fit indices of our newly developed scales to measure JC-strengths and JC-interests are moderate which can be explained by our rather small sample. In addition, although we found that JC-strengths and JC-interests explain additional variance in PJ-fit when controlling for existing job crafting scales, we also found that seeking resources (a subscale of this existing scale) is still a significant predictor of NS-fit. Therefore, future research is needed to investigate whether the job crafting concept needs to be broadened to include JC-strengths and JC-interests, in addition to other types of job crafting (e.g., Kooij, Tims, & Kanfer, 2015).

**Practical implications**

The present study provides organizations with a practical tool to increase job crafting behavior and in turn PJ-fit of older employees. This is important, because PJ-fit is a strong predictor of job satisfaction, engagement, turnover, and performance (Kristof-Brown et al., 2005). Since organizations worldwide are faced with the challenge of retaining and motivating aging workers to remain actively engaged (Bal, Kooij, & Rousseau, 2015), the job crafting intervention might be a valuable tool for accomplishing these goals by helping aging workers to better utilize their experience and knowledge (Kooij, 2015). The key is to identify the adaptations in the tool and the organizational context that will make it equally beneficial for
workers of all ages. Another practical implication is to educate employees on the virtue of taking the initiative to redesign their jobs.
References


personality traits across the life course: A meta-analysis of longitudinal studies.


Table 1

Demographic Characteristics (N= 86) for the Total Group and Subdivided into Experimental (n= 31) and Control Group (n= 55)

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean / %</th>
<th>Significance (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants</td>
<td>Experimental Group: 36% (N = 31)</td>
<td>Control Group: 64% (N = 55)</td>
</tr>
</tbody>
</table>
| Gender                        | Experimental Group: Male 29.0% (N = 9)  
                                  Female 71.0% (N = 22)  
                                  Control Group: Male 18.2% (N = 10)  
                                  Female 81.8% (N = 45)  | .28 |
| Average Age in Years          | Experimental Group: 30.71 (SD = 5.79)  
                                  Control Group: 32.98 (SD = 7.26) | .14 |
| Educational Background        | Experimental Group:  
                                  Secondary School 0.0% (N = 0)  
                                  Intermediate Vocational Education 3.2% (N = 1)  
                                  Secondary Vocational Education (BA) 38.7% (N = 12)  
                                  University (MA) 58.1% (N = 18)  
                                  Control Group:  
                                  Secondary School 7.3% (N = 4)  
                                  Intermediate Vocational Education 12.7% (N = 7)  
                                  Secondary Vocational Education (BA) 60.0% (N = 33)  
                                  University (MA) 20.0% (N = 11) | .00*** |
| Average Functional Tenure in Years | Experimental Group: 2.63 (SD = 3.64)  
                                  Control Group: 3.26 (SD = 3.04) | .40 |

Note. *p < .05; **p < .01; ***p < .001.
Table 2

Confirmatory Factor Analyses Factor Loadings

<table>
<thead>
<tr>
<th></th>
<th>Crafting towards strengths T1</th>
<th>Crafting towards interests T1</th>
<th>Crafting towards strengths T2</th>
<th>Crafting towards interests T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I organize my work in such a way that it matches my strengths</td>
<td>.88</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. In my work tasks I try to take advantage of my strengths as much as possible</td>
<td>.86</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I look for possibilities to do my tasks in such a way that it matches my strengths</td>
<td>.68</td>
<td>.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I discuss the task division with my colleagues to make sure I can do tasks I am good at</td>
<td>.41</td>
<td>.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I actively look for tasks that match my own interests</td>
<td></td>
<td>.78</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>6. I organize my work in such a way that I can do what I find interesting</td>
<td></td>
<td>.75</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>7. I make sure that I take on tasks that I like</td>
<td></td>
<td>.74</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>8. I start projects with colleagues that share my interests</td>
<td></td>
<td>.79</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>9. I engage in new relationships at work to make my work more interesting</td>
<td></td>
<td>.65</td>
<td>.52</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.

**Means, Standard Deviations, and Pearson Correlations between the Study Variables**

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>1.</td>
<td>Age</td>
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<td>6.82</td>
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</tr>
<tr>
<td>2.</td>
<td>Educational level</td>
<td>4.15</td>
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<td>-.24*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Intervention</td>
<td>.36</td>
<td>.48</td>
<td>-.16</td>
<td>.39***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>JC-strengths T1</td>
<td>4.31</td>
<td>.77</td>
<td>-.08</td>
<td>-.01</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>JC-strengths T2</td>
<td>4.24</td>
<td>.77</td>
<td>-.08</td>
<td>-.07</td>
<td>-.08</td>
<td>.52**</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>JC-interests T1</td>
<td>3.65</td>
<td>.93</td>
<td>-.17</td>
<td>-.04</td>
<td>.23*</td>
<td>.66**</td>
<td>.45**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>JC-interests T2</td>
<td>3.69</td>
<td>1.01</td>
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<td>-.03</td>
<td>.03</td>
<td>.48**</td>
<td>.68**</td>
<td>.60**</td>
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<td></td>
</tr>
<tr>
<td>8.</td>
<td>NS-fit T1</td>
<td>3.16</td>
<td>.75</td>
<td>.01</td>
<td>.14</td>
<td>.08</td>
<td>.43**</td>
<td>.16</td>
<td>.33**</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>NS-fit T2</td>
<td>3.26</td>
<td>.78</td>
<td>.03</td>
<td>.17</td>
<td>.16</td>
<td>.42**</td>
<td>.29**</td>
<td>.31**</td>
<td>.24*</td>
<td>.74**</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>DA-fit T1</td>
<td>3.52</td>
<td>.70</td>
<td>.20</td>
<td>.03</td>
<td>.01</td>
<td>.45**</td>
<td>.18</td>
<td>.31**</td>
<td>.20</td>
<td>.61**</td>
<td>.48**</td>
</tr>
<tr>
<td>11.</td>
<td>DA-fit T2</td>
<td>3.54</td>
<td>.69</td>
<td>.23**</td>
<td>-.05</td>
<td>.12</td>
<td>.49**</td>
<td>.36**</td>
<td>.47**</td>
<td>.34**</td>
<td>.54**</td>
<td>.58**</td>
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</tbody>
</table>

*Note.* *p < .05, **p < .01, ***p < .001;* educational level (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).
Table 4

*Regression Analyses Predicting Job Crafting*

<table>
<thead>
<tr>
<th></th>
<th>DV: JC-strengths T2</th>
<th>DV: JC-interests T2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Intervention</td>
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<td>.16</td>
</tr>
<tr>
<td>Education</td>
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<td>.10</td>
</tr>
<tr>
<td>JC-strengths T1</td>
<td>.52***</td>
<td>.09</td>
</tr>
<tr>
<td>JC-interests T1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F (df)</td>
<td>10.68 (3, 82)</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.28</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05; **p < .01; ***p < .001; education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).
### Table 5

**Regression Analyses Predicting Person-Job Fit**

<table>
<thead>
<tr>
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<th></th>
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<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$\beta$</td>
<td>$B$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Intervention</td>
<td>.10</td>
<td>.13</td>
<td>.06</td>
<td>.14</td>
<td>.14</td>
</tr>
<tr>
<td>Education</td>
<td>.08</td>
<td>.08</td>
<td>.08</td>
<td>.06</td>
<td>.08</td>
</tr>
<tr>
<td>JC-strengths T1</td>
<td>.03</td>
<td>.10</td>
<td>.03</td>
<td>-.14</td>
<td>.09</td>
</tr>
<tr>
<td>JC-interests T1</td>
<td>.21*</td>
<td>.09</td>
<td>.20*</td>
<td>.22**</td>
<td>.08</td>
</tr>
<tr>
<td>JC-interests T2</td>
<td>.71***</td>
<td>.08</td>
<td>.69***</td>
<td>.78***</td>
<td>.08</td>
</tr>
<tr>
<td>NS-fit T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DA-fit T1</td>
<td>22.35 (5, 73)</td>
<td></td>
<td></td>
<td>22.26 (5, 73)</td>
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<tr>
<td>$R^2$</td>
<td>.61</td>
<td></td>
<td></td>
<td>.60</td>
<td></td>
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</tbody>
</table>

*Note. *p < .05, **p < .01, ***p < .001; education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).*
Table 6

Results of Moderation Analysis on JC Towards Strengths and JC Towards Interests

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td><strong>DV: Crafting towards strengths T2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>-.18</td>
<td>.16</td>
</tr>
<tr>
<td>Age</td>
<td>-.01</td>
<td>.01</td>
</tr>
<tr>
<td>Education</td>
<td>-.04</td>
<td>.10</td>
</tr>
<tr>
<td>JC-strengths T1</td>
<td>.52</td>
<td>.09</td>
</tr>
<tr>
<td>Intervention * Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F (df)</strong></td>
<td>8.06 (4, 81)</td>
<td>10.68 (5, 80)</td>
</tr>
<tr>
<td><strong>R² (Δ R²)</strong></td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td><strong>DV: Crafting towards interests T2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>-.29</td>
<td>.21</td>
</tr>
<tr>
<td>Age</td>
<td>-.00</td>
<td>.01</td>
</tr>
<tr>
<td>Education</td>
<td>.06</td>
<td>.13</td>
</tr>
<tr>
<td>JC-interests T1</td>
<td>.68</td>
<td>.10</td>
</tr>
<tr>
<td>Intervention * Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F (df)</strong></td>
<td>11.97 (4, 81)</td>
<td>9.68 (5, 80)</td>
</tr>
<tr>
<td><strong>R² (Δ R²)</strong></td>
<td>.37</td>
<td></td>
</tr>
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</table>

Note. N = 86. DV = dependent variable. Bootstrap sample size = 1000; education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).
Table 7

*Results of Moderated Mediation Analysis on JC Towards Strengths and Needs-Supplies Fit*

<table>
<thead>
<tr>
<th>DV: Crafting towards strengths T2</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>-.06</td>
<td>.15</td>
<td>-.36</td>
<td>.719</td>
</tr>
<tr>
<td>Age</td>
<td>-.00</td>
<td>.01</td>
<td>-.03</td>
<td>.980</td>
</tr>
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<td>Intervention * Age</td>
<td>.07</td>
<td>.02</td>
<td>3.74</td>
<td>.000</td>
</tr>
<tr>
<td>Education</td>
<td>-.10</td>
<td>.09</td>
<td>-1.06</td>
<td>.293</td>
</tr>
<tr>
<td>JC-strengths T1</td>
<td>.53</td>
<td>.09</td>
<td>5.55</td>
<td>.000</td>
</tr>
<tr>
<td>Needs-supplies fit T1</td>
<td>-.06</td>
<td>.10</td>
<td>-.60</td>
<td>.550</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>DV: Needs-supplies fit T2</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>.10</td>
<td>.14</td>
<td>.73</td>
<td>.465</td>
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<td>.08</td>
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<td>.306</td>
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<td>JC-strengths T1</td>
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<td>.12</td>
<td>.26</td>
<td>.798</td>
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<tr>
<td>Needs-supplies fit T1</td>
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<td>.10</td>
<td>6.73</td>
<td>.000</td>
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<tr>
<td>JC-strengths T2</td>
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<td>.08</td>
<td>2.46</td>
<td>.016</td>
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</table>

<table>
<thead>
<tr>
<th>Unstandardized boot indirect effect</th>
<th>Boot SE</th>
<th>LL 95% CI</th>
<th>UL 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bootstrap results for conditional indirect effect of intervention on needs-supplies fit by age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger employees (-1 SD)</td>
<td>-.12</td>
<td>-.33</td>
<td>-.02</td>
</tr>
<tr>
<td>M (.00)</td>
<td>-.01</td>
<td>-.11</td>
<td>.05</td>
</tr>
<tr>
<td>Older employees (+ 1 SD )</td>
<td>.10</td>
<td>.01</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note. N = 79. DV = dependent variable. Bootstrap sample size = 1000; education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).
Table 8

*Results of Moderated Mediation Analysis on JC Towards Strengths and Demands-Abilities*

*Fit*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DV: Crafting towards strengths T2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>-.06</td>
<td>.15</td>
<td>-.37</td>
<td>.715</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
<td>.01</td>
<td>.17</td>
<td>.863</td>
</tr>
<tr>
<td>Intervention * Age</td>
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<td>.02</td>
<td>3.61</td>
<td>.001</td>
</tr>
<tr>
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<td>.09</td>
<td>-1.06</td>
<td>.291</td>
</tr>
<tr>
<td>JC-strengths T1</td>
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<td>.11</td>
<td>5.06</td>
<td>.000</td>
</tr>
<tr>
<td>Demands-abilities fit T1</td>
<td>-.10</td>
<td>.14</td>
<td>-.67</td>
<td>.502</td>
</tr>
</tbody>
</table>

| **DV: Demands-Abilities Fit T2** |     |     |      |     |
| Intervention         | .21 | .12 | 1.74 | .086|
| Education            | -.07| .09 | -.78 | .439|
| JC-strengths T1      | .10 | .10 | .96  | .339|
| Demands-abilities fit T1 | .60   | .13 | 4.65 | .000|
| JC-strengths T2      | .18 | .09 | 1.98 | .052|
| **Unstandardized boot indirect effect** |     |     |      |     |
| Intervention         | .20 | .12 | 1.70 | .087|
| Education            | -.07| .09 | -.76 | .450|
| JC-strengths T1      | .10 | .10 | .95  | .349|
| Demands-abilities fit T1 | .60 | .13 | 4.65 | .000|
| JC-strengths T2      | .18 | .09 | 1.97 | .052|

*Bootstrap results for conditional indirect effect of intervention on demands-abilities fit by age*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>LL 95% CI</th>
<th>UL 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger employees (-1 SD)</td>
<td>-.10</td>
<td>.06</td>
<td>-.30</td>
<td>-.01</td>
</tr>
<tr>
<td>M (.00)</td>
<td>-.01</td>
<td>.03</td>
<td>-.10</td>
<td>.05</td>
</tr>
<tr>
<td>Older employees (+1 SD)</td>
<td>.08</td>
<td>.06</td>
<td>.01</td>
<td>.27</td>
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</tbody>
</table>

Note. N = 79. DV = dependent variable. Bootstrap sample size = 1000; education (1 = primary school, 2 = secondary school, 3 = intermediate vocational education, 4 = secondary vocational education, 5 = university); intervention (0 = no intervention, 1 = intervention).