Job crafting and its relationships with person–job fit and meaningfulness: A three-wave study

Maria Tims [a,*], Daantje Derks [b], Arnold B. Bakker [c]

[a] *VU Amsterdam, Faculty of Economics and Business Administration, Department of Management and Organization, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands*
[b] *Erasmus University Rotterdam, Center of Excellence for Positive Organizational Psychology, Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands*
[c] *Erasmus University Rotterdam, Center of Excellence for Positive Organizational Psychology, Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands*

ARTICLE INFO

ABSTRACT

Although scholars imply that job crafting contributes to person–job fit and meaningful work, to date, no study examined the relationships between these variables. The present three-wave weekbook study was designed to gain more knowledge about the influence of job crafting on person–job fit and meaningfulness. We collected data among a heterogeneous group of employees (N = 114) during three consecutive weeks (N = 430 occasions). At the end of their working week, employees reported their job crafting behaviors, their person–job fit (demands–abilities fit and needs–supplies fit), and the meaningfulness of their work that week. Results indicated that individuals who crafted their job by increasing their job resources (e.g., support, autonomy) and challenging job demands (e.g., participate in new projects), and by decreasing their hindering job demands (e.g., less emotional job demands) reported higher levels of person–job fit the next week. In turn, demands–abilities fit related to more meaningfulness in the final week. No support was found for alternative causal models. These findings suggest that by crafting their job demands and job resources, individuals can proactively optimize their person–job fit and as a consequence experience their work as meaningful.

© 2015 Elsevier Inc. All rights reserved.

1. Introduction

The organization of work has important implications for people's life and psychological health as work can provide resources to survive, access to relational connections, and the experience of control over one's life (Blustein, 2008). Work that is experienced as motivating and meaningful by employees is found to also contribute to the organization's core (Steger, Dik, & Duffy, 2012). Not surprisingly, there is a robust knowledge base available for managers in order to design jobs that are likely to be experienced as motivating and meaningful by the workers (Humphrey, Nahrgang, & Morgeson, 2007). At the same time, scholars call attention to the fact that the job design is not only influenced by managers but by employees as well (Fuller, Marler, & Hester, 2006; Staw & Boettger, 1990). Changes in the way work is structured and performed nowadays call for workers who take agency in influencing their work characteristics (Strauss & Parker, 2014). Generally speaking, proactive person–environment fit behaviors (Parker & Collins, 2010) may be key for individual workers to match their needs and abilities with the opportunities and demands of the work environment. The self-initiated changes that employees make in the design of their job are referred to as job crafting behaviors (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001).

---

* Corresponding author at: VU Amsterdam, Department of Management and Organisation, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands.
E-mail addresses: m.tims@vu.nl (M. Tims), derks@fsw.eur.nl (D. Derks), bakker@fsw.eur.nl (A.B. Bakker).

Especially in the context of the changing nature of work, job crafting may be important. For example, when organizations restructure by means of outsourcing production processes or when they embrace the concept of new ways of working and allow employees to work from other places than the office, these changes are likely to affect the work environment. Meaningful work processes may be eliminated and also meaningful social connections may be less likely to occur without effort. Work environments that are characterized by such changes may become detrimental to employees' needs, values, and sense of organizational well-being (Sarros, Tanewski, Winter, Santora, & Densten, 2002). However, when employees engage in job crafting, they can create ways to regain meaning in their work by changing tasks or creating opportunities for interpersonal contact. The goal of the present study is to examine whether job crafting indeed relates to meaningfulness, through person–job fit.

The present study contributes to the existing literature in several important ways. First, although Wrzesniewski and colleagues (Berg, Wrzesniewski, & Dutton, 2010; Wrzesniewski & Dutton, 2001) proposed meaningfulness as an important reason for job crafting, research has mainly focused on other (albeit important) job crafting outcomes such as employee work engagement, job performance, and organizational commitment (e.g., Leana, Appelbaum, & Shevchuk, 2009; Tims, Bakker, & Derks, 2013). This means that the way job crafting affects meaningfulness remains untested while it is important to see whether employees who take the initiative to change their work characteristics are indeed increasing the meaningfulness of their work (Kira & Balkin, 2014). Therefore, we empirically test the assumption of Wrzesniewski and Dutton's (2001) job crafting model that job crafting is a proactive strategy to make work more meaningful.

A second contribution of the present study is that similar to the relationship between job crafting and meaningful work, the job crafting literature also refers repeatedly to increased person–job fit as an outcome of job crafting (Berg, Dutton, & Wrzesniewski, 2013; Wrzesniewski & Dutton, 2001). To our knowledge, this relationship has not received much research attention as well. Only recently, Chen, Yen, and Tsai (2014) found support for a positive relationship between individual and collaborative job crafting and person–job fit in a cross-sectional sample of 246 Taiwanese workers. In addition, Lu, Wang, Lu, Du, and Bakker (2014) reported a two-wave study in which data was collected among 350 Chinese participants over a three-month time interval. These authors showed that increases in physical job crafting (e.g., autonomy, job variety) were related to increases in demands–abilities fit, while increases in relational job crafting (e.g., more contact with other people in the job) were related to increases in needs–supplies fit. Hence, there is preliminary evidence that job crafting is related to person–job fit, but the present study further accumulates knowledge on this issue by using a three-wave study design in which job crafting and person–job fit are temporally separated.

Thus, the third contribution is to examine the temporal order of the job crafting model proposing that job crafting first improves person–job fit, which then influences the meaningfulness of work. Because job crafting is found to occur even on a daily basis (e.g., Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims, Bakker, & Derks, 2014), and individuals regularly evaluate the fit of their work with their own characteristics (Walsh & Gordon, 2008), we opted for a three-wave design with one week in-between the measurement occasions. This time frame allowed individuals enough time to craft their job and also to experience whether their job aligned with themselves and was meaningful.

1.1. Job crafting and person–job fit

Employee job crafting refers to changes employees make in their job on their own initiative. These changes can relate to the tasks individuals perform at work, to the social characteristics of the job, and to the way individuals think about their job (Wrzesniewski & Dutton, 2001). Examples of task crafting are employees taking on additional tasks, changing ways in which tasks are performed, and reducing the scope of their tasks. In addition to changing job tasks, employees may also change the relational boundaries of their work by altering the number and quality of interactions with other people while working. Finally, individuals may alter their view of work using cognitive crafting.

Furthermore, Wrzesniewski and Dutton (2001) argued that job crafting is different from job design perspectives that have dominated the organizational psychology literature. Job design perspectives assume that employees respond to the job as it has been redesigned by managers, while job crafting implies that employees continuously shape and influence the design of their jobs while performing their job. Adopting the view that job crafting complements job design (Wrzesniewski & Dutton, 2001), scholars have used the influential Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2014) as a framework for defining which aspects of the job employees can proactively change (e.g., Tims & Bakker, 2010). Instead of specifying beforehand which job characteristics are important for employee motivation and performance, JD-R theory states that there are two overarching categories characterizing each job.

Job demands refer to specific aspects of the job requiring effort from the employee (physical and/or psychological effort), and are therefore associated with certain costs for the individual. Job resources refer to specific aspects of the job that enable the employee to achieve work goals, reduce job demands and the associated costs, and stimulate personal development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Based on JD-R theory, job crafting has been defined as the changes employees make in their job demands and job resources (Tims & Bakker, 2010). Job crafting can take four forms, namely (1) increasing structural job resources, such as autonomy, variety, and learning opportunities; (2) increasing social job resources, like social support, supervisory coaching, and feedback; (3) increasing challenging job demands, such as proactive involvement in new projects; and (4) decreasing hindering job demands, for example by decreasing the number of emotional interactions or cognitive tasks (Tims, Bakker, & Derks, 2012). The job characteristics included in this operationalization of job crafting were identified to apply to almost every job nowadays (Kompier, 2007; Morgeson & Humphrey, 2006). Addressing job crafting this way differs from job design perspectives – that refer to perceptions of job characteristics – because it is about the *changes* (i.e., increases or decreases) employees make in their job characteristics.

When job characteristics are aligned with employees' personal needs and abilities, employees are most likely to experience good person–job fit (Kristof-Brown, Zimmerman, & Johnson, 2005). Two types of fit can be distinguished (Cable & Judge, 1996). The first

type of fit is demands–abilities (DA) fit, which refers to the compatibility between the employee's knowledge, skills, and abilities, and the demands of the job. The second type of fit refers to the extent to which the job fulfills the employee's needs and preferences and is therefore called needs–supplies (NS) fit (Cable & De Rue, 2002). Drawing on work identity theory (Alvesson, 2010; Walsh & Gordon, 2008), employees have one or more work identities through which they assess whether their job aligns with their most important work identities (Kira & Balkin, 2014). Work identity influences work behaviors aimed to endorse these work identities (Walsh & Gordon, 2008). Work that matches the individual's preferred work identity is likely to be experienced as interesting and significant whereas a misalignment between work content and work identity may result in negative work experiences (e.g., frustration).

Through job crafting, employees have a means to work on their person–job fit by adapting their work characteristics (Lu et al., 2014). It is expected that DA fit may increase as a consequence of all forms of job crafting. By increasing job resources in a way that individuals can use most of their skills, can develop themselves, and create access to important informational resources (e.g., social support or performance feedback), employees are likely to experience that they have the abilities to meet the demands of the job (see also Lu et al., 2014). Similarly, crafting job demands is also likely to result in DA fit. On the one hand, when an employee would like to use more abilities or to learn new skills, crafting more challenging job demands can result in better aligned abilities or preferences with the job. On the other hand, when the job demands overtax the employee because he/she doesn't have the right knowledge, skills, or abilities to perform these specific tasks, these job demands can proactively be decreased. That way, the balance between job demands and the individual's abilities can be restored. The result of these crafting activities may be a positive alignment between the individual's knowledge, skills, and abilities and the demands of the job. In support of this reasoning, while focusing on job design features, Boon, Den Hartog, Boselie, and Paauwe (2011) showed that perceived job characteristics like autonomy, training or development opportunities, and challenging work were indeed strongly related to person–job fit. Accordingly, because job crafting refers to employees proactively increasing access to such job characteristics, a positive relationship between job crafting and DA fit is to be expected.

Hypothesis 1a. T1 job crafting is positively related to T2 DA fit.

A similar reasoning can be applied to the relationship between job crafting and NS fit. Through shaping the job characteristics, it is possible to align the job with one's needs, preferences, and desires. To understand why job crafting may increase NS fit, we draw on self-determination theory (Ryan & Deci, 2000). Accordingly, employees have an inner drive to satisfy their needs for competence (e.g., feeling effective and skillful), autonomy (expressing self-directed behaviors), and relatedness (e.g., caring for others and feeling cared for by others; Vansteenkiste et al., 2007). A job that is responsive to these individual needs, and hence satisfies these needs is found to be intrinsically motivating and rewarding (Gagné, Ryan, & Bargmann, 2003; Reiss, Sheldon, Gable, Roscoe, & Ryan, 2000). Proactively creating or initiating opportunities in work that can satisfy these important psychological needs may result in a better NS fit (Edwards & Shipp, 2007).

For example, the job crafting forms of increasing structural and social job resources, as well as challenging job demands, may all contribute to the satisfaction of certain needs. With an increased level of structural job resources that consists of autonomy, variety, and learning opportunities, employees are likely to feel more competent and autonomous. By crafting meaningful connections with others in the workplace through engaging in conversations with supervisors and colleagues for support, coaching, or feedback (i.e., increasing social job resources) the job is likely to contribute to the feeling of relatedness. Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) showed that job resources (e.g., autonomy, supervisory support, feedback) are indeed related to need satisfaction while job demands (i.e., hindering job demands) were negatively related to need satisfaction. Based on these findings, we expect that when employees proactively craft their job characteristics, they will increase NS fit because the job then allows the employee to feel competent, autonomous, and related to others.

Hypothesis 1b. T1 job crafting is positively related to T2 NS fit.

1.2. Meaningfulness

Because of the central role work plays in the lives of many people (Blustein, 2008), the way in which employees experience their work has received a lot of attention. There are considerable differences in how people view their work (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). It is therefore unlikely that the mere design of a job determines whether work is experienced as meaningful. In fact, as argued in this study, it may be the other way around: employees craft their job to better align the job with their perception of how the job should be, and, consequently, their work becomes more meaningful (see Wrzesniewski, 2003).

Steger et al. (2012) note that meaningfulness in itself has not explicitly been studied but has mostly been inferred when certain job characteristics were present in the work environment or when outcomes such as engagement or psychological empowerment were reported. In an attempt to clarify the construct of meaningfulness, these authors identify three key facets. The first facet is "psychological meaningfulness in work" (PM), which refers to the experience of work as significant and meaningful. The second aspect of meaningful work is "meaning making through work" (MM), which constitutes that as a consequence of meaningful work, life as a whole becomes more meaningful. Finally, "greater good motivations" (GG) represent the third facet of meaningful work. GG imply that work has most meaning when it has a positive impact on others. Using these three facets to measure meaningful work, Steger et al. found that meaningful work explained variance in job satisfaction, days absent from work, and life satisfaction while controlling for other important variables, such as organizational commitment and having a calling (i.e., when work is perceived as purposeful and to serve a higher goal; Dik & Duffy, 2009).

Several researchers examined the sources of meaningful work (e.g., Robertson, 2013) and identified (1) individual characteristics (Lips-Wiersma, 2002; Wrzesniewski et al., 1997); (2) job design characteristics (Hackman & Oldham, 1980; Kahn, 1990); (3) social interactions on the job (Robertson, 2013; Wellman & Spreitzer, 2011); and (4) person–job fit (Kahn, 1990; Shamir, 1991). In sum, although some people are more likely to experience meaningful work simply because they possess certain personality traits (e.g., calling orientation; Wrzesniewski et al., 1997 or spirituality; Lips-Wiersma, 2002), the way the job is designed as well as opportunities to interact with others while working influence the meaningfulness of work. Jobs characterized by challenging, autonomous, and significant tasks are experienced as meaningful. Particularly important for the present study is the identification of person–job fit as an antecedent of meaningful work. When work is in line with the self-concepts and/or identities employees hold (i.e., person–job fit), the job is likely to be meaningful.

Research by May, Gilson, and Harter (2004) supports the idea that an experienced fit between the person and the job is positively related to meaningfulness. This relationship exists because individuals who experience fit are able to express their values and beliefs in their work (Kira & Balkin, 2014). In sum, meaningful work can be found at the workplace by ensuring alignment between an individual's competencies, values and purpose and the job (Chalofsky, 2003). Stated this way, inherent in the existence of meaningful work is the development of person–job fit (Scroggins, 2008).

Hypothesis 2. T2 DA fit (a) and T2 NS fit (b) are positively related to T3 meaningfulness.

Following the above discussion, we expect that employees who craft their jobs are more likely to experience a better fit with their job in terms of both DA and NS fit, which in turn, fosters meaningfulness in work. Thus, person–job fit functions as an explanatory mechanism for the relationship between job crafting and meaningful work. For example, a job that satisfies the need for connections with beneficiaries because employees crafted the relationships at work in such a way that they have access to these persons is likely to be more meaningful (e.g., increasing social job resources that give access to other individuals). Similarly, an individual who makes his/her job more challenging by taking on new projects is likely to experience a better fit, which will in turn result in more meaningfulness (see Fig. 1).

Hypothesis 3. T2 person–job fit mediates the relationship between T1 job crafting and T3 meaningfulness.

2. Method

2.1. Procedure and participants

Participants for this study were recruited from several companies in the Netherlands via email and telephone. Data was collected from a diverse population to increase the heterogeneity of the participants, which facilitates generalization of the research findings (Demerouti & Rispens, 2014). Employees were invited to participate through an e-mail that described the aims of the study and practical details, and that emphasized confidentiality. Employees interested to participate could reply via email. The study had a three-wave design with a one-week time lag between each wave. The link to one of the three online surveys was sent each Wednesday. Participants were asked to complete the survey at the end of their working week and received a reminder on Friday.

In week 1, the survey was completed by 158 employees. In Week 2, the survey was completed by 140 employees; and in week 3, 132 employees filled in the survey. A total of 114 participants filled in all three surveys (78.5%). Regarding the sample
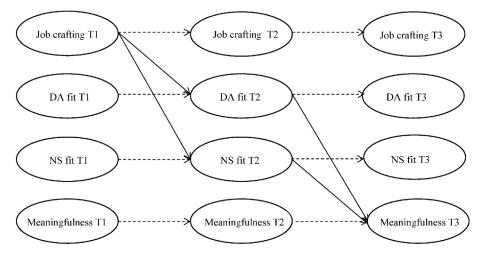

Fig. 1. Research model. Controlled relationships are indicated with the dashed lines, hypothesized relationships are shown with the solid lines. *Notes.* DA = Demands–Abilities; NS = Needs–Supplies. T1 = Time 1; T2 = Time 2; T3 = Time 3.

characteristics, 68.9% was female, and the mean age of the sample was 39.85 years (SD = 14.05). Furthermore, 10.6% had completed primary/secondary education, 47% had completed vocational training, and 42.2% had finished a university or college degree. Participants worked for 8.72 years in their current organization (SD = 10.24). Although not all participants indicated their specific job position, those who did mainly worked as teachers (24.2%), service employees and consultants (33.3%), nurses (7.6%), and trainers (5.3%).

2.2. Measures

Weekly job crafting behaviors were assessed using the 21-item Job Crafting Scale (Tims et al., 2012). The items were adapted to refer to weekly job crafting behaviors that employees had engaged in the previous week. The first dimension measures the crafting of structural job resources (five items, e.g., "This week, I tried to learn new things at work"). Cronbach"s alphas ranged from .70 to .76 (M = .74) across the three weeks. The second dimension measures the crafting of social job resources (five items, e.g., "This week, I asked my colleagues for advice"). Cronbach"s alphas ranged from .74 to .83 (M = .79) across the three weeks. The third dimension measures increases in challenging job demands (five items, e.g., "This week, I tried to start new projects at work when there was not much to do"). Cronbach"s alphas ranged from .75 to .81 (M = .78) across the three weeks. The fourth dimension measures decreasing hindering job demands (six items, e.g., "This week, I organized my work such that I did not have to concentrate for too long a period at once"). Cronbach"s alphas ranged from .74 to .84 (M = .80) across the three weeks. Participants responded on a five-point Likert scale ranging from 1 (never) to 5 (very often).

Weekly person–job fit was divided into needs–supplies (NS) fit and demands–abilities (DA) fit (Cable & De Rue, 2002). The NS and DA fit scales were adapted to reflect weekly experienced fit. NS fit was measured with three items (e.g., "There is a good fit this week between what my job offers me and what I am looking for in a job"). Cronbach's alphas ranged from .92 to .94 (M = .93) across the three weeks. DA fit was also measured with three items (e.g., "My abilities and training are a good fit with the requirements of my job this week"). Cronbach's alphas ranged from .87 to .91 (M = .89) across the three weeks. Answers could be given on a five-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree).

Weekly meaningfulness at work was measured using the 10-item Work And Meaning Inventory (WAMI; Steger et al., 2012). Cronbach's alphas ranged from .87 to .89 (M = .88) across the three weeks. The scale was adapted to reflect weekly meaningfulness at work and was translated to Dutch. The WAMI consists of three facets: positive meaning, meaning making, and greater good motivations. All items were scored on a five-point Likert scale ranging from 1 (absolutely untrue) to 5 (absolutely true). Positive meaning (PM) was assessed with four items, including "I understand how my work contributes to my life's meaning this week." Cronbach's alphas ranged from .83 to .88 (M = .85). Meaning making through work (MM) was assessed with three items (e.g., "This week, I viewed my work as contributing to my personal growth"). Cronbach's alphas ranged from .66 to .82 (M = .76). Finally, greater good motivations (GGM) was also measured with three items (e.g., "This week, I knew my work made a positive difference in the world"). Cronbach's alphas ranged from .60 to .81 (M = .71).

Analysis strategy

Data was analyzed with the AMOS statistical program version 21 using a full cross-lagged panel design. The data analysis consisted of three steps. In step 1, measurement models were examined using confirmatory factor analyses (CFAs). All constructs were modeled using latent variables. For each week, the measurement model was inspected. In step 2, the best fitting CFAs (from step 1) were used to examine the longitudinal invariance of the scales. Because the same scales were used three times, longitudinal invariance means that the scales were filled in consistently over time (Horn & McArdle, 1992). To test longitudinal invariance, all CFA's reflecting the different measurement occasions are included in one analysis. First, an unconstrained model is estimated which then serves as the comparison model. Next, two models that are increasingly more constrained were estimated: one model in which the factor loadings are constrained to be equal for similar scales and one model in which also the factor variances are constrained to be equal for similar scales. When the fit of these constrained models is significantly worse than the fit of the unconstrained model, the scales are not invariant. The third step in the analysis strategy consisted of testing the hypothesized model using structural equation modeling. A full panel design was used, meaning that all variables were measured in each week and were all modeled. This way, we could control for earlier levels of the dependent variables. Evaluation of the tested models was based on the χ^2, CFI, TLI, and RMSEA (Hooper, Coughlan, & Mullen, 2008). Bootstrapping (N = 1000) was used to examine the indirect effect expected in Hypothesis 3.

3. Results

3.1. Step 1: measurement models

Job crafting was modeled as one latent factor with the four scale means (i.e., increasing structural job resources, increasing social job resources, increasing challenging job demands, and decreasing hindering job demands) as the indicators of the latent factor. The results of the three CFAs (each of the three weeks) showed that modeling job crafting this way fit the data well. However, model fit improved substantially when a correlation between increasing social job resources and decreasing hindering job demands was allowed. Fit of the three measurement models was good: all CFI's, TLI's, and IFI's were above .97 (with the exception of TLI in week 3, which was .90). RMSEA's were all below .05.

Person–job fit was modeled as two latent factors (i.e., NS fit and DA fit) with the items as indicators of the latent factors. Fit of the three measurement models was good: all CFI's, TLI's, and IFI's were above .95 while RMSEA's were consistently below .09.

Meaningfulness was modeled as one latent factor with the three scale means (i.e., PM, MM, and GGM) as indicators. Measurement models showed good fit across the three measurement occasions: all CFI's, TLI's, and IFI's were above .98. RMSEA's were all below .03 (see Table 1 for correlations among the study variables).

3.2. Step 2: longitudinal invariance

Based on the measurement models reported above, longitudinal invariance was tested to examine whether the same factors are examined over time (Horn & McArdle, 1992). For job crafting, there were no significant differences between the unconstrained and constrained models (see Table 2 for the results). In addition, longitudinal invariance was supported for person–job fit as well. However, for the scale measuring meaningfulness, results showed that the factor loadings were not completely invariant. After testing each factor loading separately, the dimension GGM appeared not to be invariant in week 1. However, in week 2 and 3 these factor loadings could be constrained to be equal. Although this finding suggests that there may be some difficulties in interpreting T1 meaningfulness, this should not cause serious problems in our study because we mainly use T2 and T3 meaningfulness in the analysis.

3.3. Step 3: testing the hypothesized model

In Hypotheses 1a, 1b, it was expected that T1 job crafting would be positively associated with T2 person–job fit. While controlling for T1 person–job fit, the relationship between job crafting and person–job fit was significant. More specifically, T1 job crafting was significantly related to DA fit ($\gamma = .31$, $p < .01$) and NS fit at T2 ($\gamma = .37$, $p < .001$). Thus, Hypotheses 1a, 1b is supported.

In Hypothesis 2, a positive relationship between person–job fit and meaningfulness over time was predicted. Controlling for T2 meaningfulness, T2 DA fit was positively associated with T3 meaningfulness ($\beta = .16$, $p < .05$), however, T2 NS fit was not related to T3 meaningfulness ($\beta = -.05$, $p = .43$). Therefore, Hypothesis 2a is supported regarding the relationship between T2 DA fit and T3 meaningfulness while Hypothesis 2b is rejected.

Finally, Hypothesis 3 tested the mediation effect in which T2 person–job fit mediates the relationship between T1 job crafting and T3 meaningfulness. While testing Hypothesis 2, NS fit was not related to meaningfulness, which is why we could only test for an indirect effect of job crafting on meaningfulness via DA fit. The bootstrap estimate was .079 and the bias-corrected confidence interval surrounding this estimate did not contain zero: .008–.258, indicating a significant indirect effect of job crafting on meaningfulness via DA fit. Hypothesis 3 is partially supported by our data. Model fit of the full cross-lagged hypothesized model was adequate: $\chi^2 = 890.02$, $df = 654$, CFI $= .94$, TLI $= .93$, IFI $= .94$, RMSEA $= .06$, SRMR $= .09$.

3.4. Alternative models

Although we argued relationships from job crafting to person–job fit and subsequently to meaningfulness over time, the data allowed us to also examine several alternative causal models. Two alternative models were tested. The first model represents the idea that the perception of person–job fit stimulates or reduces subsequent job crafting (e.g., when fit is low (vs. high) employees might particularly be motivated to actively change their job characteristics in order to improve the fit between their job and their knowledge, skills, and preference; e.g., Tims & Bakker, 2010). In turn, job crafting would be related to meaningful work. The results showed that T1 person–job fit did not predict T2 job crafting (DA fit: $\gamma = .11$, $p = .27$ and NS fit: $\gamma = -.03$, $p = .79$). In

Table 1
Means, standard deviations, and correlations among study variables ($N = 114$).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Job crafting T1	2.32	.56	–											
2. DA fit T1	3.64	.95	.07	–										
3. NS fit T1	3.35	1.04	.12	.66**	–									
4. Meaningfulness T1	3.72	.65	.41**	.39**	.53**	–								
5. Job crafting T2	2.28	.55	.69**	.10	.14	.37**	–							
6. DA fit T2	3.65	.83	.26**	.45**	.43**	.55**	.34**	–						
7. NS fit T2	3.32	1.02	.28**	.34**	.53**	.55**	.31**	.72**	–					
8. Meaningfulness T2	3.66	.63	.30**	.39**	.50**	.86**	.31**	.57**	.55**	–				
9. Job crafting T3	2.18	.55	.65**	.11	.07	.30**	.68**	.18	.18	.22*	–			
10. DA fit T3	3.71	.88	.13	.49**	.38**	.51**	.24**	.65**	.52**	.60**	.19*	–		
11. NS fit T3	3.40	.97	.21*	.37**	.56**	.57**	.24*	.58**	.71**	.62**	.17	.76**	–	
12. Meaningfulness T3	3.65	.62	.33**	.40**	.46**	.83**	.36**	.57**	.51**	.89**	.31**	.59**	.60**	–

Note. T1 = Time 1, DA = Demands–abilities, NS = Needs–supplies, T2 = Time 2, T3 = Time 3.
** $p < .01$.
* $p < .05$.

Table 2
Results of the longitudinal invariance tests.

	χ^2	df	$\Delta\chi^2/\Delta df$	p	CFI	TLI	IFI	RMSEA
Job crafting								
Unconstrained	48.12	37			.99	.97	.99	.05
FL constrained	54.27	43	6.15/6	.41	.99	.98	.99	.05
FL and FV constrained	54.44	45	6.32/8	.61	.99	.98	.99	.04
Person–job fit								
Unconstrained	159.93	102			.97	.96	.97	.07
FL constrained	167.37	110	7.44/8	.49	.97	.96	.97	.07
FL and FV constrained	170.84	114	10.91/12	.54	.97	.96	.97	.07
Meaningfulness								
Unconstrained	12.96	15			1.00	1.00	1.00	.00
FL constrained	25.10	19	12.14/4	.02	.99	.99	.99	.05
FL (except T1 GGM) constrained	13.69	18	0.73/3	.87	1.00	1.00	1.00	.00
FL (except T1 GGM) and FV constrained	17.42	20	4.46/5	.49	1.00	1.00	1.00	.00

Note. FL = factor loadings; FV = factor variances. $N = 114$.

addition, while controlling for T2 meaningfulness, T2 job crafting was not related to T3 meaningfulness ($\beta = .05$, $p = .39$). Therefore, this alternative model is not supported by our data.

The second alternative model examined whether T1 job crafting predicts T2 meaningfulness, which, in turn, predicts T3 person–job fit. This model tests whether job crafting directly relates to meaningfulness without an intervening mechanism. Again, the path from T1 job crafting to T2 meaningfulness was not significant ($\gamma = -.10$, $p = .14$), although the path from T2 meaningfulness to T3 person–job were significant (both paths: $\beta = .28$, $p < .001$). To conclude, we found no convincing support for alternative causal models and accept the hypothesized model.

4. Discussion

Employees are nowadays more likely to expect that work not only fulfills economic needs but also psychological and social needs (Rosso, Dekas, & Wrzesniewski, 2010). Given these changes, increasing interest in meaningful work emerged. The present study aimed to examine how employees themselves can influence the experienced meaningfulness of their work. More specifically, this study was designed to test the often-theorized relationships between job crafting, person–job fit, and meaningfulness over time. Literature suggests that employees who proactively change aspects of their job (i.e., job crafting) are more likely to experience a good person–job fit. In this study, we focused on both demands–abilities (DA) fit and needs–supplies (NS) fit as consequences of job crafting. It was expected that when employees increase the amount of tasks they have or search for opportunities to develop themselves (i.e., craft their job) they do so because they value these job characteristics. Results of the three-wave study showed that job crafting indeed positively impacts the experienced DA and NS fit, indicating that the increase in job resources and challenging job demands, and the decrease in hindering job demands resulted in a job that fits the individuals knowledge, skills, abilities, and needs.

4.1. Theoretical contributions

Our results are in line with the findings of Chen et al. (2014) and Lu et al. (2014) who recently investigated the relationship between job crafting and person–job fit as well. While Chen et al. (2014) examined the association between individual and collaborative job crafting and person–job fit and Lu et al. (2014) the relationship between changes in physical and relational job crafting and changes in person–job fit, our results provide additional confidence to the idea that job crafting indeed precedes a better person–job fit over time. Hence, the present study contributes to the theoretical discussion of job crafting and person–job fit as it empirically establishes this relationship over time (Tims & Bakker, 2010). The finding that the present results are in the same range across these different studies, adds to the robustness of the findings especially since different job crafting measures and study designs were used in the different studies. Although the differences in measurement of job crafting are not extremely large, the present study followed the job crafting approach in which the crafting of job characteristics is central (Tims et al., 2012). Theoretically, the assessment of job crafting with the job characteristics approach seems to closely match the way person–job fit is evaluated by employees. Furthermore, the present study could control for previous levels of person–job fit (which was not possible in the studies of Chen et al., 2014 and Lu et al., 2014), and could still establish the relationship between job crafting and person–job fit over time.

A second theoretical contribution of the present study is the inclusion of meaningful work as an outcome variable. Although meaningfulness has been proposed as an important outcome of job crafting (Wrzesniewski & Dutton, 2001), to our knowledge, this has not been empirically tested so far. Moreover, the mechanism through which job crafting may impact meaningfulness has not been tested over time. In support of job crafting theory, our findings suggest that meaningfulness of work will be high when employees engage in job crafting because that increases their perceived person–job fit. It should be noted here that T2 needs–supplies fit was not related to T3 meaningfulness in our study. The fulfillment of needs and desires seems to be an important mechanism in the construction of the meaning of work (Rosso et al., 2010), and in relation to psychological meaningfulness, fit of values and beliefs seems to be a key aspect

of it (May et al., 2004). Nevertheless, our study does not support a relationship between NS fit and meaningfulness. An explanation for this finding could be that the assessment of NS fit may be a more general assessment compared to DA fit. While DA fit asks about how well the person's skills were in line with the job demands in that specific week, NS fit asks employees to evaluate the extent to which the job completely fulfills the person's preferences and needs. The more abstract formulation of these items and the focus on complete fulfillment may have been less relevant for a particular working week.

Finally, we could test alternative models to get a better feel of the causal relationship between job crafting, person–job fit, and meaningfulness. The first alternative model tested whether T1 person–job fit would act as an antecedent of T2 job crafting. Results showed that both types of T1 person–job fit were unrelated to T2 job crafting. This finding underscores the idea that job crafting contributes to changes in the job that result in the perception of a good personal fit with the job over time. The second alternative model tested the direct relationship between job crafting and meaningfulness. This model was also less plausible than the hypothesized model because T1 job crafting was unrelated to T2 meaningfulness. The hypothesized model best supports our data in showing that job crafting leads to the perception of person–job fit, which, in turn, relates to meaningfulness of work.

4.2. Practical implications

Translating the findings of the present study into implications for practice suggests in the first place that meaningful work can be achieved by job crafting. For managers, this signals that they should provide room and opportunities for employees to engage in self-management behaviors. Instead of designing jobs for employees and expecting them to perform the predefined tasks, employees should be given room to also search for those characteristics in their jobs that fit their own abilities and needs. One way to accomplish this is through stimulating employees to think about their current job and how their ideal job would look like. The next step would then be to let employees examine opportunities to change their current job characteristics in such a way that the job better fits the strengths, needs, and working preferences of the individual. To date, evidence from first job crafting interventions have shown that job crafting may be stimulated through training (Gordon, 2015). Furthermore, managers could also employ good selection processes in order to establish person–job fit when hiring new employees. In addition to this, it is also important that person–job fit is monitored after individuals are employed (e.g., by regular evaluations and conversations with employees). This way, managers and employees can closely monitor changes in demands–abilities and needs–supplies that can be addressed.

For employees, the study underscores the impact of proactively making changes in the job characteristics. Waiting for managers to make these changes may not be sufficient to experience good person–job fit and consequently meaningful work (Breevaart, Bakker, & Demerouti, 2014; Tims & Bakker, 2010). In the ever-changing world of work, proactively mobilizing and optimizing the work environment seems to be a beneficial strategy to keep work experiences positive.

4.3. Study limitations and future research ideas

To study the relationships between job crafting, person–job fit, and meaningfulness, the study made use of a three-wave study design with one week in-between each measurement occasion. The rationale for this design was that studies are needed to examine the order of the relationships over time. Although one week may seem to be relatively short, job crafting is theorized to be a behavior that occurs regularly (Wrzesniewski & Dutton, 2001) and has been shown to occur on a daily basis (Petrou et al., 2012; Tims et al., 2014). Job crafting behaviors such as asking for feedback about task performance, asking help from colleagues, and avoiding difficult tasks seem to occur frequently among workers. The time frame of one week may therefore be not too small to capture job crafting and the consequences of it. Nonetheless, the optimal time frame to study job crafting may deserve some more attention by using studies with different time lags between measurement times in order to establish the long-term effects of job crafting on different outcome variables.

The study employed self-reports, which is usually seen as a study limitation because it can result in positive bias in the responses of the respondents and in common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Despite these limitations, the constructs of interest for this study are very personal. It may be difficult for supervisors and/or colleagues to report about the person–job fit and experienced meaningfulness of someone else. It would, however, be interesting to see research that examines these issues. In an effort to reduce biases, each survey reassured confidentiality of responses and participation was voluntarily. By collecting full panel data, we could also control for previous week's scores of the dependent variables, while still showing effects of the predictor variables on these dependent variables.

Although the study design allowed us to examine the relationship between job crafting, person–job fit, and meaningfulness over time and also alternative models could be tested (but not supported by our data), other variables could have also influenced our results. Future research could try to examine moderators or underlying mechanisms that may play a role in better understanding these relationships. For example, future research could include basic need satisfaction as a mechanism through which job crafting may lead to needs–supplies fit (Van den Broeck et al., 2008).

5. Conclusion

With increasingly more interest in the experience of meaningful work and its determinants (Steger et al., 2012), this study showed that when employees proactively change aspects of their job to increase job resources, challenging job demands, and decrease hindering job demands, employees are likely to improve their person–job fit and consequently their experienced meaningfulness of work. These findings align well with the current view of employees as active agents in their work, not only to fulfill

their self-interest but also those of the organization as meaningfulness contributes to many positive organizational outcomes as well (e.g., Arnold, Turner, Barling, Kelloway, & McKee, 2007; Steger et al., 2012). To conclude, this study supports the words of Kekes (1986, *p. 75*) stating that "for meaning to be meaningful 'it has to be made, not received or found'".

References

Alvesson, M. (2010). Self-doubters, strugglers, storytellers, surfers and others: Images of self-identities in organization studies. *Human Relations, 63*, 193–217.

Arnold, K.A., Turner, N., Barling, J., Kelloway, E.K., & McKee, M.C. (2007). Transformational leadership and psychological well-being. The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12*, 193–203.

Bakker, A.B., & Demerouti, E. (2014). Job demands–resources theory. *Well-being, 3*, 1–28.

Berg, J.M., Dutton, J.E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B.J. Dik, Z.S. Byrne, & M.F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 81–104). Washington, DC: American Psychological Association.

Berg, J.M., Wrzesniewski, A., & Dutton, J.E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior, 31*, 158–186.

Blustein, D.L. (2008). The role of work in psychological health and well-being: A conceptual, historical, and public policy perspective. *American Psychologist, 63*, 228–240.

Boon, C., Den Hartog, D.N., Boselie, P., & Paauwe, J. (2011). The relationship between perceptions of HR practices and employee outcomes: Examining the role of person–organisation and person–job fit. *The International Journal of Human Resource Management, 22*, 138–162.

Breevaart, K., Bakker, A. B., & Demerouti, E. (2014). Daily self-management and work engagement. *Journal of Vocational Behavior, 84*(1), 31–38.

Cable, D.M., & De Rue, D.S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology, 87*, 875–884.

Cable, D.M., & Judge, T.A. (1996). Person organization fit, job choice decisions, and organizational entry. *Organizational Behaviour and Human Decision Processes, 67*, 294–311.

Chalofsky, N. (2003). An emerging construct for meaningful work. *Human Resource Development International, 6*, 69–83.

Chen, C., Yen, C., & Tsai, F.C. (2014). Job crafting and job engagement: The mediating role of person–job fit. *International Journal of Hospitality Management, 37*, 21–28.

Demerouti, E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.

Demerouti, E., & Rispens, S. (2014). Improving the image of student-recruited samples: A commentary. *Journal of Occupational and Organizational Psychology, 87*, 34–41.

Dik, B.J., & Duffy, R.D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. *The Counseling Psychologist, 37*, 424–450.

Edwards, J.R., & Shipp, A.J. (2007). The relationship between person–environment fit and outcomes: An integrative theoretical framework. In C. Ostroff, & T.A. Judge (Eds.), *Perspectives on organizational fit* (pp. 209–258). New York: Lawrence Erlbaum.

Fuller, J.B., Marler, L.E., & Hester, K. (2006). Promoting felt responsibility for constructive change and proactive behavior: Exploring aspects of an elaborated model of work design. *Journal of Organizational Behavior, 27*, 1089–1120.

Gagné, M., Ryan, R.M., & Bargmann, K. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology, 15*, 372–390.

Gordon, H. J. (2015). *Craft your job! Improving well-being, decision making, and performance in healthcare.* Eindhoven: Technische Universiteit Eindhoven.

Hackman, J.R., & Oldham, G.R. (1980). *Work redesign.* Reading, MA: Addison-Wesley.

Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods, 6*, 53–60.

Horn, J.L., & McArdle, J.J. (1992). A practical and theoretical guide to measurement invariance in aging research. *Experimental Aging Research, 18*, 117–144.

Humphrey, S.E., Nahrgang, J.D., & Morgeson, F.P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology, 92*, 1332.

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.

Kekes, J. (1986). The informed will and the meaning of life. *Philosophy and Phenomenological Research, 47*, 75–90.

Kira, M., & Balkin, D.B. (2014). Interactions between work and identities: Thriving, withering, or redefining the self? *Human Resource Management Review, 24*, 131–143.

Kompier, M. (2007). Werk- en organisatiegerichte interventies. In W.B. Schaufeli en A.B. Bakker (Eds.), De psychologie van arbeid en gezondheid (pp. 193–216). Houten: Bohn Stafleu Van Loghum.

Kristof-Brown, A.L., Zimmerman, R.D., & Johnson, E.C. (2005). Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. *Personnel Psychology, 58*, 281–342.

Leana, C., Appelbaum, E., & Shevchuk, I. (2009). Work process and quality of care in early childhood education: The role of job crafting. *Academy of Management Journal, 52*, 1169–1192.

Lips-Wiersma, M. (2002). The influence of spiritual "meaning-making" on career behavior. *Journal of Management Development, 21*, 497–520.

Lu, C., Wang, H., Lu, J., Du, D., & Bakker, A.B. (2014). Does work engagement increase person–job fit? The role of job crafting and job insecurity. *Journal of Vocational Behavior, 84*, 142–152.

May, D.R., Gilson, R.L., & Harter, L.M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology, 77*, 11–37.

Morgeson, F.P., & Humphrey, S.E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology, 91*, 1321–1339.

Parker, S.K., & Collins, C.G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*, 633–662.

Petrou, P., Demerouti, E., Peeters, M.C.W., Schaufeli, W.B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33*, 1120–1141.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.

Reiss, H.T., Sheldon, K.M., Gable, S.L., Roscoe, J., & Ryan, R.M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*, 419–435.

Robertson, K.M.P. (2013). *Doing meaning: A theoretical and grounded exploration of workplace relationships and meaningful work (doctoral dissertation.* Segal Graduate School): Beedie School of Business Faculty.

Rosso, B.D., Dekas, K.H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior, 30*, 91–127.

Ryan, R.M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Sarros, J.C., Tanewski, G.A., Winter, R.P., Santora, J.C., & Densten, I.L. (2002). Work alienation and organizational leadership. *British Journal of Management, 13*, 285–304.

Scroggins, W.A. (2008). The relationship between employee fit perceptions, job performance, and retention: Implications of perceived fit. *Employee Responsibilities and Rights Journal, 20*, 57–71.

Shamir, B. (1991). Meaning, self and motivation in organizations. *Organization Studies, 12*, 405–424.

Staw, B.M., & Boettger, R.D. (1990). Task revision: A neglected form of work performance. *The Academy of Management Journal, 33*, 534–559.

Steger, M.F., Dik, B.J., & Duffy, R.D. (2012). Measuring meaningful work: The Work and Meaning Inventory (WAMI). *Journal of Career Assessment, 20*, 322–337.

Strauss, K., & Parker, S.K. (2014). Effective and sustained proactivity in the workplace: A self-determination theory perspective. In M. Gagné (Ed.), *The Oxford Handbook of Work Engagement, Motivation, and Self-Determination Theory (pp. 50–71).* Oxford University Press.

Tims, M., & Bakker, A.B. (2010). Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology, 36*, 1–9.

Tims, M., Bakker, A.B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80*, 173–186.
Tims, M., Bakker, A.B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18*, 230–240.
Tims, M., Bakker, A.B., & Derks, D. (2014). Daily job crafting and the self-efficacy–performance relationship. *Journal of Managerial Psychology, 29*, 490–507.
Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic need satisfaction. *Work & Stress, 22*, 277–294.
Vansteenkiste, M., Neyrinck, B., Niemiec, C.P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007d). On the relations among work value orientation, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology, 80*, 251–277.
Walsh, K., & Gordon, J.R. (2008). Creating an individual work identity. *Human Resource Management Review, 18*, 46–61.
Wellman, N., & Spreitzer, G. (2011). Crafting scholarly life: Strategies for creating meaning in academic careers. *Journal of Organizational Behavior, 32*, 927–931.
Wrzesniewski, A. (2003). Finding positive meaning in work. In K.S. Cameron, J.E. Dutton, & R.E. Quinn (Eds.), *Positive Organizational Scholarship: Foundations of a new discipline* (pp. 298–308). San Francisco, CA: Berrett-Koehler.
Wrzesniewski, A., & Dutton, J.E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*, 179–201.
Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality, 31*, 21–33.