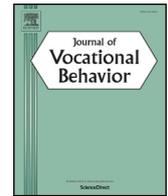




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Does work engagement increase person–job fit? The role of job crafting and job insecurity[☆]



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ABSTRACT

Drawing on the expanded model of person–environment fit and job crafting theory, this study investigates the underlying processes of the relationship between work engagement and changes in person–job fit. A two-wave longitudinal study was conducted among 246 Chinese employees of a high technology company. As hypothesized, the results show that work engagement is positively related to changes in demands–abilities fit through changes in physical job crafting and positively related to changes in needs–supplies fit through changes in relational job crafting. As predicted, the positive relationship between work engagement and changes in relational job crafting (however, not changes in physical job crafting) is strengthened under conditions of high (vs. low) job insecurity. Our findings indicate that engaged employees craft their work in physical and relational ways, which creates a better person–job fit. The theoretical and practical implications are discussed.

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1. Introduction

Organizations are under intense competitive pressures to survive and progress in an ever-changing world of work. More than ever, organizations need their employees to be energetic, dedicated, and fully engaged in their work because the quality of human resources is of vital importance to the success of organizations, especially in uncertain working contexts. Work engagement has been shown to be positively associated with individual and organizational performance (for a review, see Christian, Garza, & Slaughter, 2011). Employee work engagement has recently received considerable attention from organizational behavior scholars and practitioners (e.g., Albrecht, 2010; Bakker & Leiter, 2010; Rich, LePine, & Crawford, 2010).

Kahn (1990) was one of the first to theorize on the subject of work engagement. He described engaged employees who focus their physical, cognitive, and emotional energy on the pursuit of role-related goals. There are several definitions of engagement (see Albrecht, 2010; Bakker & Leiter, 2010; Macey & Schneider, 2008), however, Schaufeli and Bakker (2010) proposed the following, frequently used definition of work engagement: an active, positive work-related state that is characterized by vigor, dedication, and absorption. Whereas scholars have taken different perspectives on engagement, “there is a growing consensus that engagement can be defined in terms of high levels of energy and high levels of involvement in work” (Bakker, Albrecht, & Leiter, 2011, p. 22).

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Previous studies have suggested that organizations might foster employee work engagement by creating resourceful and challenging work environments (e.g., Rich et al., 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Employees are not merely passive recipients of their work environments; they tend to take active actions, build valued resources, and create their preferred workplace (Bakker, 2010). Recently, Bakker et al. (2011) recommended that person–environment fit such as needs–supplies fit and demands–abilities fit should be considered in future research on work engagement to ascertain whether engaged (vs. non-engaged) employees are more inclined to improve their person–environment fit. We intend to conduct a longitudinal field study among Chinese workers.

When proposing the expanded person–environment fit model, Yu (2009) argued that a positive work-based affect could elicit more changes in person–environment fit, including person–job (P–J) fit. Work engagement, as a positive and high-arousal affective state, might help employees achieve a better P–J fit (Bakker et al., 2011). Past research has shown that engaged employees are inclined to increase their job resources (e.g., actively asking for feedback from their supervisor and colleagues) and job demands (e.g., taking the initiative to start a new project) to create a more challenging work environment (e.g., Bakker, 2011; Tims, Bakker, & Derks, 2012, 2013). The process in which employees actively shape their jobs is referred to as job crafting (Wrzesniewski & Dutton, 2001). Researchers have suggested that high uncertainty and flux in the workplace could actually offer more opportunities for employees to craft their own jobs (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Wrzesniewski & Dutton, 2001). We expect job crafting to play a mediating role, explaining the reason that work engagement leads to changes in P–J fit, especially under conditions of high uncertainty (i.e., job insecurity).

This study contributes to the existing literature in the following ways. First, we test whether work engagement, as a positive work affect, leads to changes in P–J fit by using a longitudinal study design. Our study enriches the existing work engagement literature by addressing P–J fit as an outcome (Bakker et al., 2011), which adds to our knowledge of individual-level antecedents to P–J fit perceptions (Kristof-Brown, Zimmerman, & Johnson, 2005; Yu, 2009). Second, by further combing Yu's (2009) expanded model of person–environment fit and job crafting theory (Wrzesniewski & Dutton, 2001), we investigate the mechanisms and conditions by which work engagement affects employees' changes in perceptions of P–J fit, including needs–supplies fit and demands–abilities fit. This might enhance our understanding of the reason engaged employees could achieve a better P–J fit, especially under conditions of high job insecurity.

2. Theory and hypotheses

2.1. Work engagement and P–J fit

Work engagement is an affective–motivational, work-related state of fulfillment that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Vigor refers to high levels of energy, mental endurance, and perseverance at work. Dedication is characterized by a high involvement in one's work and a sense of significance, inspiration, pride, and challenge, whereas absorption indicates that one is fully concentrating and happily engrossed in one's work. Scholars taking Schaufeli and his colleagues' approach to conceptualizing engagement appear to place more emphasis on the positive valence of engagement. Bakker and Demerouti (2008) suggested that employees with high work engagement will find their work interesting, meaningful, and energizing and will experience positive affects, including happiness, joy, and enthusiasm. Macey and Schneider (2008) argued that as in satisfaction, work engagement also has positive valence; however, "it is the sense of energy and enthusiasm in engagement that makes the construct different" (p. 24). Work engagement could hence be viewed as the activated state of positive work-related affect with raised motivation (e.g., Warr & Inceoglu, 2012). Given that our research model is based on Fredrickson's (2001) broaden-and-build (B&B) theory of positive emotion and Yu's (2009) expanded model of positive affect and person–environment fit, we selected the positive approach of engagement of Schaufeli and his colleagues.

According to Fredrickson's (2001) broaden-and-build (B&B) theory, positive affective states share the ability to broaden momentary thought–action repertoires of individuals, which build enduring personal resources in people, ranging from physical and intellectual resources to psychological and social resources. Work engagement, as a positive motivational–affective state, could broaden employees' thought–action repertoires and help build or increase personal and job resources (e.g., Bakker, 2011; Tims et al., 2012, 2013). It is interesting and relevant to combine these insights with Yu's (2009) expanded model of person–environment fit. He argued that a positive work-based affect could help an individual achieve a better fit, including person–job (P–J) fit. P–J fit focuses on the match between personal characteristics and job characteristics, which can be differentiated into demands–abilities (D–A) fit and needs–supplies (N–S) fit. D–A job fit perceptions refer primarily to judgments of congruence between the demands of a job and an employee's knowledge, skills, and abilities, whereas N–S job fit perceptions are concerned with the congruence between an employee's needs or wants and supplies he or she receives from a job (e.g., Edwards, 1991; Kristof-Brown, 2000). To the best of our knowledge, there is no empirical study testing Yu's (2009) expanded model of person–environment fit.

Bakker (2010) suggested that engaged employees could create their own great place to work and increase their P–J fit perceptions as a consequence. Engaged employees might learn to increase the variety of skills or talents used at work to meet job requirements more effectively; engaged employees might be inclined to seek feedback from their supervisors or colleagues to perform better, which might eventually achieve results in higher psychological and financial rewards (e.g., esteem, salary, and promotions).

In line with these arguments, we propose the following hypothesis:

Hypothesis 1. Work engagement is positively related to changes in person–job fit, including needs–supplies fit and demands–abilities fit.

2.2. The mediating role of job crafting

As suggested by Christian et al. (2011), engaged employees, after fully investing themselves in their jobs, might begin to develop a stronger sense of P–J fit “by increasing or changing their abilities to meet the demands of the job, by adjusting their needs to be satisfied by what the job supplies, or by actively changing the job itself to one that is a better fit for them” (p. 123). More generally, in the expanded person–environment fit model, Yu (2009) proposed that individuals who experience positive work-based affect can achieve a P–J fit in three different ways: “(a) adapting the subjective and/or objective self to be in line with its environmental counterparts; (b) changing the subjective and/or objective environment to match personal attributes; or (c) adjusting both self and environment simultaneously so that they converge into a fitting relationship” (p. 1214). As noted previously, engaged employees are in positive, fulfilling affective-motivational states. To achieve consistency between the experienced positive affect and their feelings of P–J fit, engaged workers might be motivated to change the components of the workplace environment (Yu, 2009).

Changing the work environment is a significant way in which engaged employees can increase their perceptions of P–J fit, which can be referred to as job crafting. Job crafting is formally defined as “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (Wrzesniewski & Dutton, 2001, p. 179). Changing task boundaries is altering the form or number of activities one engages in while performing a job, whereas changing relational boundaries indicates exercising discretion over with whom one interacts while performing a job (Laurence, 2010; Wrzesniewski & Dutton, 2001). The key characteristics of the job crafting concept are that employees are motivated to change the design and social environment of their job to alter the meanings of their work and themselves and subsequently to “fit their own sense of what the job should be” (Wrzesniewski & Dutton, 2001, p. 185). Job crafting concerns shaping a job to accommodate one's ability and needs, through which employees might be able to increase their P–J fit. By combining job crafting theory and Yu's (2009) expanded person–job fit model, we suggest that job crafting represents one important way of achieving a better P–J fit with a specific focus on changes in the work environment.

Hakanen, Perhoniemi, and Toppinen-Tanner (2008), in their two-wave study of 2155 Finish dentists, found that the experience of work engagement broadened dentists' coping and action repertoires, including their levels of personal initiative (i.e., active and initiative-taking behavior beyond formal work requirements). Their findings supported the positive cross-lagged association between work engagement and personal initiative. Using a daily survey design, Sonnentag (2003) consistently found that day-level work engagement predicted day-level personal initiative and pursuit of learning. Weigl et al. (2010) provided evidence supporting that work engagement enables employees to mobilize their job resources. These empirical findings indicate that engaged employees are by no means passive recipients of their work environment; rather, they are proactive in making changes and taking initiative. Job crafting resembles such initiative and proactive behaviors (Wrzesniewski & Dutton, 2001). Most recently, Tims et al. (2012) showed that work engagement is positively related to job crafting.

Through the process of job crafting, employees “act upon the job to create a better fit” (Wrzesniewski & Dutton, 2001, p. 118). Approximately 20 years ago, Black and Ashford (1995) found that many employees sought to “make jobs fit” by proactively modifying their jobs to match their skills, preferences, and values during the socialization process. The theory of work adjustment (Davis & Lofquist, 1984) emphasizes the process through which an individual attempts to change the work environment to achieve correspondence with their environment, which is similar to the concept of fit. More recently, Leana, Appelbaum, and Shevchuk (2009) found that job crafting enabled childcare teachers to become more attached to their jobs and less likely to leave because their jobs had been reshaped to better fit the teachers.

Through a broadened scope of attention, cognition, and action triggered by the positive affect of work engagement, engaged employees perform more job crafting, tailor their own jobs, and create their own P–J fit. We argue that job crafting might serve as the mechanism through which engaged employees create a better P–J fit. In line with Yu's (2009) perspectives, we suggest that the types of P–J fit achieved will most likely depend on how employees craft their job. Physical job crafting is concerned with changing the form or number of activities at work (Wrzesniewski & Dutton, 2001), which might be more likely to affect the perception of D–A fit. There is evidence showing that individuals could change their jobs (e.g., negotiating task assignments) to fit their skills and abilities better (e.g., Ashford & Black, 1996; Nicholson, 1984). Relational job crafting is about positively changing the psycho-social work environment (Wrzesniewski & Dutton, 2001). Consequently, an individual's psychological needs are fulfilled by the supplies of the work environment (e.g., Cable & Edwards, 2004; Grant & Parker, 2009). Relational job crafting might be more relevant to the perception of N–S fit. Taken together, we propose the following hypotheses:

Hypothesis 2a. Changes in physical job crafting mediate the relationship between work engagement and changes in demands–abilities fit.

Hypothesis 2b. Changes in relational job crafting mediate the relationship between work engagement and changes in needs–supplies fit.

2.3. The moderating role of job insecurity

Job crafting performs as a significant mediating mechanism linking work engagement to changes in P–J fit. In proposing their pioneering model of job crafting, Wrzesniewski and Dutton (2001) theorized that contextual factors might limit or open up employee's perceived opportunities to craft their jobs. As a form of proactive behavior, job crafting is a bottom-up method through which employees observe and change the task and relational boundaries of their jobs. In the literature on proactive behavior, research has indicated that employees are more likely to exhibit a variety of proactive behaviors when encountering

situations of uncertainty, such as negotiating job changes, seeking feedback, and building social networks (Grant & Ashford, 2008; Griffin, Neal, & Parker, 2007). These proactive behaviors could enable employees to predict and influence their work environment, which might help employees have a better fit with their job (Black & Ashford, 1995).

Today, because of rapid organizational changes such as outsourcing, mergers, downsizing, and restructuring employees experience a marked sense of job insecurity in the workplace (Society for Human Resource Management, 2011). Job insecurity refers to the amount of uncertainty an individual feels about his or her job continuity (e.g., Greenhalgh & Rosenblatt, 1984; Sverke, Hellgren, & Näswall, 2002), which has been shown to greatly affect employees' attitudes and behaviors (for reviews, see Cheng & Chan, 2008; Sverke et al., 2002). Macey and Schneider (2008) argued that work engagement matters most under conditions of uncertainty. Thus, we expect that in environments of high job insecurity, engaged employees have stronger needs to alter and change the task and relational boundaries of their jobs to reduce uncertainty and to provide a good fit with their values and needs. It has been suggested that work engagement could affect work-related outcomes through job crafting, particularly in highly uncertain environments (e.g., Bakker et al., 2011; Petrou et al., 2012). Berg, Wrzesniewski, and Dutton (2010) argued that contextual factors, including perceived problems or constraints in the workplace, could be treated as challenges, which might require employees' to undertake greater efforts in job crafting. This hypothesis has barely been tested in empirical studies. Based on Fredrickson's (2001) broaden-and-build (B&B) theory, some studies have shown that the effect of positive emotions/events on individuals' resource building is stronger under adverse environments (e.g., Fredrickson, Tugade, Waugh, & Larkin, 2003; Gross et al., 2011). Based on the above literature, we propose our final two hypotheses:

Hypothesis 3a. The positive relationship between work engagement and changes in physical job crafting is stronger when job insecurity is high (vs. low).

Hypothesis 3b. The positive relationship between work engagement and changes in relational job crafting is stronger when job insecurity is high (vs. low).

3. Method

3.1. Participants and procedure

The participants in the study were employees of a foreign-owned high technology company in China. A longitudinal research design was used to collect two-wave data over a three-month time interval. A self-administered questionnaire survey method was used, and our research assistants distributed the questionnaires to the targeted respondents and sought their consent to complete the survey on a voluntary basis. In the first survey wave (Time 1), 350 participants returned the questionnaire, indicating a response rate of 87.06%. Three months later, the follow-up questionnaire was sent to the employees who responded at Time 1. Of these, a total of 278 employees returned the questionnaire, indicating a response rate of 79.43%. Excluding the uncompleted and non-matching questionnaires, we finally received 246 pairs of questionnaires, resulting in a matching rate of 70.29%. Approximately 55% of our sample was male. The mean age was 28.8 years ($SD = 4.7$), and the mean organization tenure was 38 months ($SD = 31$). The participants were highly educated; approximately 80% of the sample had completed at least a bachelor's degree. The participants in our final sample included R & D employees, customer service and technical support engineers, line managers, and salespersons, and more than 80% of the participants were non-management employees.

The survey instruments were in Chinese. Work engagement and job insecurity were measured at Time 1 (T1); job crafting and person–job fit were measured at Time 1 and Time 2 (T2). The scales in this study, namely, work engagement (e.g., Lu, Siu, Chen, & Wang, 2011; Cronbach's $\alpha = .91$), job insecurity (e.g., Wong, Wong, Ngo, & Lui, 2005; Cronbach's $\alpha = .76$), P–J fit (e.g., Wang, Zhan, McCune, & Truxillo, 2011; Cronbach's $\alpha = .85$), and job crafting (see below for details) have been used in the Chinese context and provided respectable reliability and validity in previous studies.

3.2. Measures

3.2.1. Work engagement

We used the nine-item Utrecht Work Engagement Scale (UWES) to measure work engagement (Schaufeli, Bakker, & Salanova, 2006). Three items measured each dimension of work engagement. Each item was rated on a seven-point scale ranging from 0 (never) to 6 (always). A sample item for vigor was, "At my work, I feel bursting with energy"; for dedication, "I am enthusiastic about my job"; and for absorption, "I am immersed in my work".

3.2.2. Job insecurity

Job insecurity was assessed using the four items developed by Caplan, Cobb, French, Van Harrison, and Pinneau (1975), which reflect the amount of certainty a person has about his/her future job security. One sample item was, "How certain are you about what your responsibilities will be six months from now?" Responses ranged from "very certain" (1) to "very uncertain" (6), with higher scores denoting higher levels of perceived job insecurity.

3.2.3. Job crafting

Job crafting was measured using two subscales of the expansion-oriented job crafting scale (Laurence, 2010; Laurence, Fried, & Yan, 2010), with a Chinese version because of the sampling of Chinese employees. Physical job crafting investigated the expansion of the physical boundary of a job (including autonomy, task identity, and job variety) with eleven items. A sample item was, “I have taken steps to increase the extent of my decision latitude concerning how I do the tasks required for my job”. Relational job crafting investigated the expansion of the relational boundary with seven items. A sample item was “I have taken steps to increase the extent to which I deal with other people on my job”. Responses ranged from 1 (never) to 5 (very much). In another sample of 159 employees of a Chinese company, we found that the current measure of relational job crafting was highly correlated to the measure from the seven-item social job crafting scale developed by Tims et al. (2012) ($r = .65, p < .001$), demonstrating convergent validity. In this study, we measured one important criterion of job crafting, namely the meaning of work (Wrzesniewski & Dutton, 2001). The correlations of T1 physical job crafting and T1 relational job crafting with T2 meaning of work (the three-item scale developed by Spreitzer, 1995; Cronbach's $\alpha = .84$) were significant ($r = .22, p < .001$, and $r = .25, p < .001$, respectively), which provides good evidence for the criterion-related validity of job crafting scale used in our study.

3.2.4. Person–job fit

We used the six-item subjective fit perception measure developed by Cable and DeRue (2002). Both types of person–job fit were assessed with three items each. Ratings were completed on a six-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). A sample item for needs–supplies fit was, “There is a good fit between what my job offers me and what I am looking for in a job”; and a sample item for demands–abilities fit was, “The match between the demands of my job and my personal skills is very good”.

3.3. Analysis strategy

Before testing our hypothesized relationships, we conducted a confirmatory factor analysis (CFA) to test the validity of our measurement model. Given our relatively small sample size compared to the numbers of items, we constructed item parcels in the confirmatory factor analyses (Marsh, Hau, Balla, & Grayson, 1998). Three indicators were randomly formed for physical job crafting as well as relational job crafting, whereas work engagement had three manifest indicators—vigor, dedication, and absorption. We specified ten latent variables (work engagement and job insecurity at T1 and physical job crafting, relational job crafting, N–S fit, and D–A fit at T1 and T2) in a single CFA. As suggested in previous studies (e.g., Brown, 2006), the measurement model allowed error variances of the identical indicators used across time points to be correlated to account for their non-independence.

The changes in job crafting and P–J fit were measured by standardized residual scores, which were obtained by regressing T2 scores for job crafting and P–J fit on the corresponding T1 scores (e.g., Smith & Beaton, 2008). Separate regression analyses were performed using the parceled indicators measuring job crafting and P–J fit. Positive residual scores indicate increases, whereas negative values indicate decreases in job crafting or P–J fit over time. We used SEM with bootstrapping to test the mediating role of changes in job crafting in the relationship between work engagement and changes in P–J fit. We extracted new samples with replacement from our sample 2,000 times and calculated all of the direct and indirect estimates of the hypothesized model. Hierarchical regression analysis was used to test the interactive effect of work engagement and job insecurity at T1 on subsequent changes in job crafting.

4. Results

4.1. Measurement model

The CFA results showed that the *ten-factor* model, in which the error terms for the corresponding latent variable indicators were allowed to be correlated over time, provided a good fit with the data ($\chi^2(493) = 886.08, p < .001$, CFI = .97, NNFI = .97, SRMR = .062, RMSEA = .055). The results indicate that all of the variables were distinct and measured in a consistent way at both time points.

4.2. Hypotheses testing

Table 1 shows the means, standard deviations, and correlations for the variables. The alpha coefficients were from .75 to .93. As shown in Table 1, T1 work engagement was positively related to changes in D–A fit ($r = .27, p < .01$) and changes in N–S fit ($r = .32, p < .01$), which supported our Hypothesis 1.

The results of structural equation modeling analyses showed that our proposed model fit the data well ($\chi^2(84) = 114.75, p < .001$, CFI = .98, NNFI = .98, SRMR = .049, RMSEA = .040). As shown in Fig. 1, work engagement at T1 was positively related to changes in physical job crafting ($\beta = .29, p < .001$) and changes in relational job crafting ($\beta = .29, p < .01$). We found that changes in physical job crafting were positively related to changes in D–A fit ($\beta = .31, p < .001$), whereas changes in relational job crafting were positively related to changes in N–S fit ($\beta = .41, p < .001$). The bootstrap analyses confirmed the pathways running from work engagement at T1 to changes in D–A fit through physical job crafting changes (bootstrap estimate = .089, standard error = .036, lower CI = .032, higher CI = .176, $p < .01$) and the pathways running from work engagement at T1 to changes in N–S fit through relational job crafting changes (bootstrap estimate = .119, standard error = .041, lower CI = .044, higher CI = .211, $p < .05$).

Table 1
Descriptive statistics, correlations, and reliabilities for study variables (N = 246).

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Work engagement T1	3.82	1.02	(.92)													
2. Relational job crafting T1	3.25	.77	.42**	(.89)												
3. Physical job crafting T2	3.33	.74	.47**	.72**	(.93)											
4. Relational job crafting T2	3.36	.71	.36**	.61**	.46**	(.90)										
5. Physical job crafting T2	3.39	.67	.38**	.44**	.50**	.76**	(.93)									
6. ΔRelational job crafting	.03	.72	.23**	.23**	.20**	.91**	.71**	–								
7. ΔPhysical job crafting	.02	.71	.24**	.22**	.17*	.69**	.94**	.73**	–							
8. Needs–supplies fit T1	3.58	1.07	.52**	.37**	.38**	.30**	.27**	.18**	.15*	(.89)						
9. Demands–abilities fit T1	4.67	.78	.30**	.24**	.28**	.09	.17*	–.01	.08	.13	(.75)					
10. Needs–supplies fit T2	3.62	.93	.34**	.27**	.27**	.40**	.39**	.35**	.33**	.52**	.02	(.82)				
11. Demands–abilities fit T2	4.61	.83	.23**	.12	.20**	.18**	.31**	.16*	.27**	.10	.45**	.19**	(.78)			
12. ΔNeeds–supplies	.00	.81	.13*	.13	.13	.31**	.31**	.32**	.30**	.09	–.05	.90**	.17**	–		
13. ΔDemands–abilities fit	.02	.79	.14*	.05	.12	.17*	.28**	.18**	.27**	.06	.12	.20**	.94**	.20**	–	
14. Job insecurity T1	2.90	.91	–.43**	–.40**	–.43**	–.33**	–.32**	–.20**	–.19**	–.46**	–.31**	–.25**	–.24**	–.05	–.16*	(.77)

Note. Cronbach's alpha reliabilities are in parentheses on the diagonal. T1 = Time 1; T2 = Time 2.

* $p < .05$.

** $p < .01$.

We also tested two alternative models (See Table 2). One model added the paths from work engagement at T1 to changes in D–A fit ($\beta = .09, p > .05$) and changes in N–S fit ($\beta = .06, p > .05$); the other model added the path from changes in relational job crafting to changes in D–A fit ($\beta = -.05, p > .05$) and the path from changes in physical job crafting to changes in N–S fit ($\beta = -.19, p > .05$). Although these two alternative models showed a similarly good fit with the data (see Table 2), the proposed model was the best model in terms of the chi-square change test. Those results fully supported Hypotheses 2a and 2b.

In the hierarchical regression analysis, work engagement and job insecurity at T1 were entered in the first and second step, respectively. The interactive term of work engagement and job insecurity was entered in the third step. As shown in Table 3, T1 work engagement had a significant effect on changes in relational job crafting ($\beta = .23, p < .001$) and changes in physical job crafting ($\beta = .24, p < .001$) at step 1. At step 3, the interactive term of work engagement at T1 and job insecurity was significant for changes in relational job crafting ($\beta = .13, p < .05$), but not for changes in physical job crafting ($\beta = .07, p > .05$). We plotted the significant interaction (see Fig. 2) and examined the simple slopes according to the guidelines suggested by Aiken and West (1991). For the low levels of job insecurity group, the simple slope ($b = .06, p > .05$) was not significant, whereas for the high levels of job insecurity group, the simple slope was significantly positive ($b = .21, p < .01$) for changes in relational job crafting. It appears that T1 work engagement had a significant positive effect on changes in relational job crafting when employees perceived job insecurity to be high; T1 work engagement was not related to subsequent changes in relational job crafting when employees had a low perception of job insecurity. The results supported Hypothesis 3b for relational job crafting, but not for physical job crafting (Hypothesis 3a).

5. Discussion

The purpose of our study was to explore the relationship between work engagement and changes in P–J fit, with a focus on investigating the mediating role of job crafting in the relationship between work engagement and changes in P–J fit and the moderating role of job insecurity. Our results revealed that work engagement as an intense positive work-based affect had a significant indirect effect on changes in N–S fit through changes in relational job crafting and on changes in D–A fit through changes in physical job crafting. We found that the positive relationship between work engagement and changes in relational job crafting became stronger under conditions of high job insecurity; by contrast, the positive relationship was no longer significant under the perception of low job insecurity. Job insecurity did not moderate work engagement–changes in the physical job crafting relation.

Our findings provide evidence for Yu's (2009) expanded model of person–environment fit, which proposes that work-based affect might cause a better fit in the workplace. The findings regarding the mediating role of job crafting in the relationship between work engagement and person–job fit corroborate the idea that engaged employees create their own great place to work, which has been proposed in the most recent versions of the Job Demands–Resources model (Bakker, 2011). By drawing on the idea of job crafting, the recent Job Demands–Resources model suggests that engaged employees are most likely to mobilize their social network at the workplace to better fulfill their job responsibility (e.g., asking feedback from a supervisor) and to increase their own job demands to create a more challenging work environment (e.g., starting new projects). The former active behaviors are considered a part of relational job crafting, whereas the latter behaviors are considered a part of physical job crafting. As a consequence of job crafting, engaged employees might be able to increase their P–J fit. Our study provided empirical evidence for the above propositions and tested two distinct processes underlying two types of P–J fit through a longitudinal study.

Our finding on the moderating effect of job insecurity suggests that an uncertain environment (i.e., insecure job situation) motivates employees to make changes in their jobs. The results are consistent with those of previous studies indicating that the experience of uncertainty or stress could increase proactive behaviors by motivating employees to change their contexts (e.g., Ashford & Cummings, 1985; Griffin et al., 2007). Because job insecurity is associated with much uncertainty, it is a situation ripe for the emergence of proactive actions (Grant & Ashford, 2008). Through these proactive actions (e.g., job crafting), individuals actually use the uncertainty of the surrounding workplace as an opportunity to craft their jobs to better fit their needs and skills (Black & Ashford, 1995). Job insecurity did not moderate the work engagement–changes in the physical job crafting relationship.

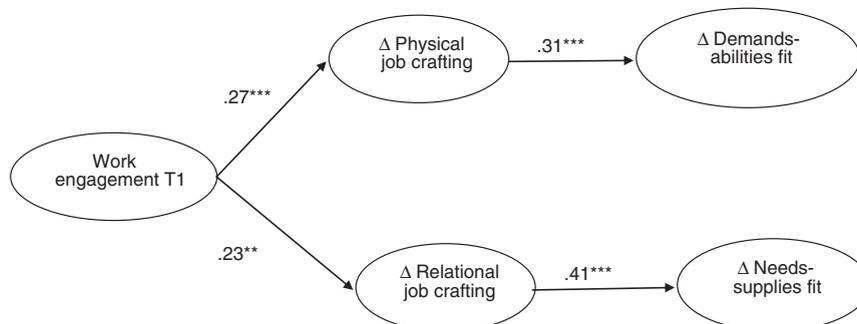


Fig. 1. The proposed job crafting model. Note: ** $p < .01$, *** $p < .001$. $N = 246$. T1 = Time 1. Maximum likelihood estimates (standardized) are displayed.

Table 2

Fit indices of structural models (N = 246).

	Models	χ^2	df	CFI	NNFI	SRMR	RMSEA	$\Delta\chi^2$	Δdf
	Structural model								
Model 1:	Proposed model	114.75*	84	.98	.98	.049	.040		
Model 2:	Proposed model and work engagement T1 → Δ P–J fit	113.04*	82	.98	.97	.046	.041	1.71	2
Model 3:	Proposed model and Δ Physical job crafting → Δ N–S fit Δ Relational job crafting → Δ D–A fit	113.93*	82	.98	.97	.048	.041	.82	2

Note. Model 2–3 are nested in our hypothesized Model 1. Chi-square difference test was used when comparing nested models. P–J fit, person–job fit; D–A fit, demands–abilities fit; N–S fit, needs–supplies fit. T1, time 1. χ^2 , chi-square, *df*, degree of freedom; CFI, comparative fit index; NNFI, non-normed fit index; SRMR, standardized root mean square residual; RMSEA, root mean square error of approximation.

* $p < .05$.

It appears that work engagement was positively related to changes in physical job crafting regardless of the feeling of job insecurity. We suggested that a possible reason might be that most of our samples are non-management employees with low-rank positions. Berg et al. (2010) demonstrated that lower-ranking employees sought to build and strengthen positive relationships in the workplace as a main part of their job-crafting activities under challenging situations. This job crafting behavior is more likely to be adopted as a primary behavior in our sample because Chinese society comprises a highly relationship-oriented context (Tsui, Egan, & O'Reilly, 1992).

5.1. Research contributions

First, based on the expanded person–environment fit model (Yu, 2009) and job crafting theory (Wrzesniewski & Dutton, 2001), we tested the processes linking work-based affect to changes in P–J fit. Job crafting as a bottom-up method of job redesign represents a way in which employees change their work environment in Yu (2009). A change in physical job crafting, as a result of positive work-based affect (i.e., work engagement), led to a change in D–A fit, whereas a change in relational crafting resulted in a change in N–S fit. Our study combined the expanded person–environment fit model (Yu, 2009) with job crafting theory (Wrzesniewski & Dutton, 2001) and hence offered a better understanding of the link between positive affect and P–J fit. Our study provided empirical support for Yu (2009) by demonstrating two distinct paths from work-based affect to D–A fit and N–S fit, which contributes to the person–environment fit literature because of the severely limited understanding of the antecedents of fit perceptions (Kristof-Brown et al., 2005). Our study included changes in P–J fit as dependent variables, which should enrich the existing work engagement literature (Bakker et al., 2011).

Second, our choice of job crafting as the mediator answers Oldham and Hackman's (2010) call for more studies on the antecedents and consequences of job crafting and broadens the knowledge of this new job design concept. Employees are not passive recipients of their environment, especially engaged employees. By proactively expanding their task and relational boundaries, engaged employees create their own P–J fit. The result obtained in this study is in accordance with the findings that engaged employees are more proactive (e.g., Hakanen et al., 2008; Sonnentag, 2003). The finding demonstrates that engaged employees are actively involved in this self-initiated job shaping behavior to create a better P–J fit themselves. The result reveals job crafting to be one mechanism through which work-based affect (i.e., work engagement) increases P–J fit. Our study has enriched Yu's expanded person–environment fit model and made a theoretical contribution to job crafting research because "... little theory or research has directly examined job crafting as a mechanism for employees to cultivate a positive sense of meaning and identity in work over time" (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013, p. 287).

Third, our finding about the moderating effect of job insecurity reveals that employees take active actions to address job uncertainty, especially those more engaged in the work. As a positive motivational-affective state, work engagement could urge employees to show more job crafting behaviors (relational job crafting) to adapt to a highly uncertain work environment.

Table 3

The results of moderated hierarchical regression (N = 246).

		Δ Physical job crafting		Δ Relational job crafting		
Step 1	Work engagement T1	.24***	.19**	.19**	.23***	.18*
	ΔR^2	.056***			.054***	
Step 2	Job insecurity T1		–.11	–.12		–.13
	ΔR^2		.010		.012	
Step 3	Work engagement T1 \times Job insecurity T1			.07		.13*
	ΔR^2			.004		.017

Note: T1 = Time 1.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

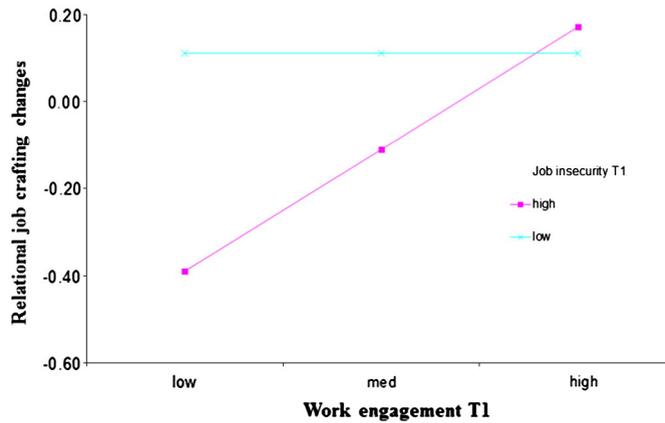


Fig. 2. The interaction effect of work engagement and job insecurity on changes in relational job crafting.

Concerning job stress, job insecurity is one prominent type of job stressor that has been shown to affect employees negatively (Sverke et al., 2002). Job insecurity represents one form of negative and uncertain work characteristic. Our study incorporated individuals' positive affect (i.e., work engagement) and negative work characteristics (i.e., job insecurity) into an integrative model to predict job crafting and P–J fit, which contributes to the understanding of the job crafting process.

5.2. Limitations and future directions

There are several limitations to this study. First, the study was based on self-reported measures, which might raise questions of common-method bias (e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The longitudinal design overcomes some of the problems because previous levels of the variables are controlled for to a certain degree, and the interaction effect might be less affected by this bias (Brannick, Chan, Conway, Lane, & Spector, 2010). The CFA results showed that the constructs could be empirically discriminated. Second, one suggestion for future studies is to extend the possible individual characteristics that affect the work engagement–fit perception relationship, such as individual perceived control (Lyons, 2008). Third, we measured the subjective fit rather than the objective fit. Some researchers suggested that the subjective fit has a moderate correlation with the objective fit and that the subjective fit is a better predictor of individuals' decisions than the objective fit (e.g., Cable & Parsons, 2001; Judge & Cable, 1997). We encourage further research to replicate our findings by using the objectively measured fit (e.g., creating a fit index by using individual and work characteristics). Finally, we encourage researchers to use a three-wave longitudinal design to conceptualize and test dynamic mediated relationships better.

5.3. Practical implications

Our study has implications for organizational leaders and consultants who aim to maintain and increase employees' fit perception. Given that P–J fit is a dynamic process (e.g., Jansen & Kristof-Brown, 2006), the issues of fit are important in hiring and retaining employees. Our results indicate that engaged employees tend to craft their own jobs to increase P–J fit in the workplace. The rapidly changing work environment of today evokes a greater feeling of uncertainty. This uncertain job context motivates engaged employees to actively re-design their jobs. Employees might engage in more job crafting behaviors to have a better fit with their jobs. Research has found that job crafting is positively linked with other-ratings of in-role performance (Bakker, Tims, & Derks, 2012), which suggests that organizations might benefit from employees' job crafting behaviors. Managers might want to create a context that facilitates job crafting as long as it aligns with organizational goals. For example, acting as career mentors, managers might model positive job crafting behaviors such as expanding their relational boundaries of work by increasing interactions with their subordinates. Managers might provide employees more job autonomy and create a more relaxed work environment so that employees could tailor their jobs to fit their motives, strengths, and passions (Wrzesniewski & Dutton, 2001). Our study has implications for career counselors. Individuals seek to achieve and maintain work environment fit (Dawis, 1996; Dawis & Lofquist, 1984); this study shows this finding particularly in engaged employees. It is important to help individuals make a good career choice, and it is equally important to guide them to maintain positive emotions/affect and take a proactive approach in the career management process in the current uncertain context.

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