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Abstract

We extend the theory of job crafting by proposing that job characteristics, individual differences, and group-level contexts interactively promote employee job crafting. Specifically, drawing on the theories of job characteristics, regulatory focus, and social exchange, we develop a multilevel model involving skill variety, an employee's promotion focus, and procedural justice climate in predicting job crafting. To test our model, we conducted a survey of 265 employees working in 44 work groups at a state-owned enterprise in China. In support of our hypotheses, skill variety has a direct effect on job crafting, which is moderated by promotion focus. Further, our finding on the cross-level three-way interaction suggests that procedural justice climate is an important group-level context that influences employee job crafting. Implications for job crafting theory and future research directions are discussed.

JEL Classifications: M10, M12, M54

Keywords: job crafting, skill variety, promotion focus, procedural justice climate

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Introduction

Over the past decades, the top-down fashion of job design has hardly been adaptable to the decentralized workplace (Crant, 2000). Organizations need their employees to make initiative changes in the ever-changing environment. In other words, instead of passively accepting their job assignments, employees should actively optimize and modify their job components and work roles (Bell & Staw, 1989; Kulik, Oldham, & Hackman, 1987). By doing so, employees would proactively engage in the “job crafting” process of sculpting and altering their own jobs and work experiences (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013). Job crafting refers to “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (Wrzesniewski & Dutton, 2001: 179). By crafting jobs, employees achieve better fit between their jobs and themselves and inspire initiative in the workplace (Berg, Dutton, & Wrzesniewski, 2013; Rosso, Dekas, & Wrzesniewski, 2010).

The concept of job crafting expands the traditional perspectives of job design by assuming that employees proactively customize their job components to better align their personal needs, motives, and passions (Berg, Wrzesniewski, & Dutton, 2010; Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001). Recent studies have suggested that job crafting is widespread across a variety of occupations and that most employees have at least some latitude to sculpt the boundaries of their jobs (Leana, Appelbaum, & Shevchuk, 2009; Lyons, 2008; Tims, Bakker, Derks, & van Rhenen, 2013). Furthermore, job crafting may lead to a number of positive effects, including employee subjective well-being, job satisfaction, organizational commitment, work engagement, and job performance (Berg, Grant, & Johnson, 2010; Berg, Wrzesniewski, & Dutton 2010; Ghitulescu, 2006; Tims et al., 2013).

Owing to the value of job crafting to employees and their organizations, researchers have begun to investigate how it can be enhanced. Because job crafting involves proactively making prescribed jobs match employees, it can be influenced by both individual differences

and situational factors, such as proactive personality, employee rank, job autonomy, and supportive supervision (e.g., Bakker, Tims, & Derks, 2012; Berg, Wrzesniewski, & Dutton, 2010; Leana et al., 2009).

Although great knowledge on theory of job crafting has been accumulated, several issues remain open for further investigation. For example, prior studies have shown that characteristics of a job can affect employee job crafting. However, most of them focus on job autonomy that is related to the perceived freedom to change the boundaries of the job (Berg, Wrzesniewski, & Dutton, 2010; Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Wrzesniewski & Dutton, 2001) and overlook other job characteristics that may promote employee job crafting in a different manner. In addition, we know little about individual difference factors that moderate the effect of job characteristics on employee job crafting. Furthermore, almost no study has examined the role of group-level factors in promoting job crafting. This is a serious limitation of the extant literature, considering that individuals and jobs are embedded in broader group or organizational contexts and social interactions in work groups are essential for job crafting (Berg, Wrzesniewski, & Dutton, 2010).

To address these research gaps, we develop a multilevel model integrating job characteristics, individual differences, and a group-level context in predicting employee job crafting. In regard to job characteristics, we focus on skill variety, or the extent to which a job requires various skills, as an important but yet unnoticed predictor of employee job crafting (Hackman & Oldham, 1980). Next, we focus on employees' promotion focus, or their expectations of and attitudes towards challenges at work, as an individual difference factor that interacts with skill variety in predicting job crafting (Higgins, 1998). Finally, as a group-level context, we use procedural justice climate, which takes a relational view by focusing on shared perceptions of fairness in the social interactions (Tyler & Lind, 1992). Our use of procedural justice climate is consistent with the relational perspective of job crafting

(e.g., Berg, Wrzesniewski, & Dutton, 2010), which suggests that individuals and jobs are embedded in the relational context and individual job crafting is influenced by interpersonal interactions in the workplace.

Our multilevel theorizing of the determinants of job crafting integrates several theoretical perspectives such as job characteristics (Hackman & Oldham, 1980), regulatory focus (Higgins, 1998), and social exchange (Blau, 1964). By doing so, this article aims to advance the theory of job crafting in a meaningful way. First, by focusing on skill variety as a dimension of job characteristics, the current study sheds light on the factor that increases employees' perceived challenges as a critical predictor of job crafting. Next, we demonstrate that the individual difference in self-regulation (i.e., promotion focus) predicts how individuals differently react to the same levels of skill variety in predicting job crafting. Further, we introduce the social exchange logic to the job crafting process and show that procedural justice climate as the group-level context alters the interaction between promotion focus and skill variety. Our findings indicate that the mechanism by which employees are motivated to craft their jobs involves a complex interaction between job characteristics, self-regulation, and the social exchange process. In other words, we show that employees might craft their jobs with different motives under varied relational contexts.

Theory and Hypotheses

Job crafting in the workplace is a critical proactive behavior for an employee who seeks to develop greater compatibility with the work environment (Tims et al., 2013; Wrzesniewski & Dutton, 2001). It is a complex process in which the isolated individual or contextual factors alone may not explain this behavior elaborately (Wrzesniewski & Dutton, 2001). In other words, job crafting is a socially embedded process in which individuals, jobs, and the relational context in the workplace are interrelated. Therefore, we propose a multilevel, integrative framework that incorporates skill variety as a job characteristic,

promotion focus as an individual difference, and procedural justice climate as a group-level context to predict employee job crafting. Figure 1 shows our theoretical model.

Insert Figure 1 about here

Role of Skill Variety

Because job crafting is a way to reshape one's job boundaries, job itself may limit an employee's perceived opportunity to job craft. Indeed, job crafting occurs in employees' work context, characterized by job tasks, expectations, and identities, which affect employees' perceived abilities and the opportunities to craft their jobs (Berg, Wrzesniewski, & Dutton 2010). In the present study, we focus on skill variety as one dimension of job characteristics that influences employee job crafting. Skill variety refers to the extent to which a job requires employees to use a wide range of different skills, talents, and activities in carrying out the work (Hackman & Oldham, 1975). In other words, skill variety represents challenging aspects of the job.

Based on the job characteristics theory, we propose that a high level of skill variety will stimulate job crafting by increasing perceived challenges and providing opportunities to use more of their talents for changing job boundaries (Bakker, 2011; Hackman & Oldham, 1976, 1980; Humphrey, Nahrgang, & Morgeson, 2007). A high level of skill variety increases perceived challenges, which stretches employees' skills and abilities. More explorations and adjustments are needed to perform jobs with a high level of skill variety (Ghitulescu, 2006). Thus, a high level of skill variety cultivates employees' growth needs and openness to change, which in turn, motivate them to reshape their job boundaries (Axtell, Wall, Stride, Pepper, Clegg, Gardner, & Bolden, 2002). Moreover, a high level of skill variety increases employees' positive expectations that job crafting will improve productivity and meaningfulness (Berg et al., 2013; Hackman & Oldham, 1980). Therefore, we predict the

following:

Hypothesis 1: Skill variety will be positively related to job crafting.

Moderating Role of Promotion Focus

Although employees may have opportunities to take initiative actions, many of them have no compelling reason to do so (Parker, Bindl, & Strauss, 2010). Because job crafting is full of obstacles and challenges (Berg, Wrzesniewski, & Dutton, 2010; Wrzesniewski & Dutton, 2001), we argue that whether or not crafting one's job when there is an opportunity to do so is contingent on one's self-regulatory system, including his or her attitudes towards setbacks at work and willingness to meet these roadblocks (Kark & Van Dijk, 2007; Lanaj, Chang, & Johnson, 2012; Berg, Wrzesniewski, & Dutton, 2010).

Regulatory focus refers to the process through which people approach desired end states and avoid undesired end states (Higgins, 1987). Individuals self-regulate through two distinctive regulatory foci: promotion focus and prevention focus (Crowe & Higgins, 1997). Individuals with high promotion focus are concerned with aspiration, advancement, and accomplishment. They perceive achieving goals as advancement and yield emotional pleasure when goals are accomplished. On the other hand, individuals with prevention focus are concerned with duties, responsibility, and safety (Brockner & Higgins, 2001; Crowe & Higgins, 1997; Higgins, 1997). We argue that among these regulatory foci, promotion focus plays a critical role in the job crafting process because of its emphasis on "striving for ideals, approaching future gains, and accomplishment" is consistent with the proactive and change-oriented nature of job crafting (Tims & Bakker, 2010; Wallace, Butts, Johnson, Stevens, & Smith, 2013).

Regulatory fit theory (Higgins, 2000) suggests that highly promotion-focused employees are more likely to be inspired to job craft by a high level of skill variety because of the following reasons. First, high skill variety jobs provide them with ample opportunities

to change their task, relational, and cognitive boundaries, which promote positive expectations that their jobs will become more productive and meaningful. Second, individuals with high promotion focus prefer an approach-oriented strategy to meet challenges rather than avoiding them (Kark & Van Dijk, 2007; Sun, Song, & Lim, 2013). Therefore, they are more likely to be inspired by perceived challenges to job craft stemming from a high level of skill variety. On the other hand, those with low promotion focus are not inclined to make changes to their job boundaries, and they will not be excited about challenging work activities because of their change-aversions (Higgins, 2000; Kark & Van Dijk, 2007). They are more comfortable passively waiting for job assignments than taking control to make initiative changes. Thus, we predict the following:

Hypothesis 2: An employee's promotion focus will moderate the relationship between skill variety and job crafting such that the relationship is stronger when promotion focus is high rather than low.

Moderating Role of Procedural Justice Climate

We further argue that a group-level work context also plays a critical role in predicting employee job crafting. As team members' shared and enduring cognitions, procedural justice climate reflects a relational perspective of how they are treated by the organization in social interactions (Li, Liang, & Crant, 2010; Naumann & Bennett, 2000). According to the social exchange theory (Blau, 1964), employees are willing to reciprocate favorable treatment they receive from the organization. In other words, motivation to make contributions emerges when employees perceive debt to organizations in social exchanges (Cohen-Charash & Spector, 2001; Kamdar, McAllister, & Turban, 2006).

Researchers suggest that employees' fairness perceptions from organization account for a wide range of their discretionary behaviors such as taking charge, voice, helping, and organizational citizenship behavior (Kamdar et al., 2006; Li et al., 2010; McAllister, Kamdar,

Morrison, & Turban, 2007; Takeuchi, Chen, & Cheung, 2012). When they are treated in a procedurally fair manner, employees perceive being valued and attached to their organizations, resulting in their willingness and the feeling of obligations to reciprocate (Kamdar et al., 2006; Tyler & Lind, 1992). Thus, under a high level of procedural justice climate, regardless of the level of promotion focus, employees are motivated to contribute to the organization through the increase of productivity, which leads to the engagement of job crafting when there are opportunities to do so (Sun, Chow, Chiu, & Pan, 2013). In this situation, job crafting will be driven largely by the goals of the organization (e.g., to increase productivity or profit).

On the other hand, under a low level of procedural justice climate, employees will not be motivated to contribute to their organizations because they lack the feelings of social exchange obligations (Kamdar et al., 2006). In addition, low quality social exchanges with the organizations reduce their desires to move beyond job requirements because such efforts may be ineffective (McAllister et al., 2007; Walumbwa, Hartnell, & Oke, 2010). However, even under the low level of procedural justice climate, those with high promotion focus will be motivated to job craft when skill variety is high in order to satisfy their own interests and growth needs (Wallace et al., 2013). In other words, those high in promotion focus set their own goals to make their jobs more interesting and meaningful under the high level of skill variety. Our argument is consistent with trait activation theory, which indicates that the situation where skill variety is high and procedural justice climate is low provides trait-relevant situation cues to employees (Tett & Burnett, 2003).

Our arguments so far also indicate that the effect of procedural justice climate on employee job crafting will differ according to the levels of employees' promotion focus. High promotion-focused employees will be motivated to craft their jobs when skill variety of their jobs is high regardless of the level of procedural justice climate. They can motivate

themselves even though they are not obliged to help their organizations in the face of unfair treatment (Higgins, 1998). On the other hand, low promotion-focused employees will not be motivated to craft their jobs even when skill variety is high unless they want to benefit the organizations. Thus, procedural justice climate will moderate the relationship between skill variety and job crafting only for employees low in promotion focus such that the relationship is stronger when procedural justice climate is high rather than low.

In summary, under a high level of procedural justice climate, a high level of skill variety will promote employee job crafting regardless of the levels of promotion focus because these employees want to reciprocate fair treatment by the organization. On the other hand, under a low level of procedural justice climate, only those who are high in promotion focus will engage in job crafting when skill variety is high because they will be motivated by their own goals (i.e., goal-oriented self-regulation). Viewed differently, procedural justice climate will positively moderate the effect of skill variety on job crafting only for those with low promotion focus because high promotion-focused employees can motivate themselves for job crafting even in unfavorable relational contexts. Thus, we predict the following a cross-level three-way interaction.

Hypothesis 3: There will be a cross-level three-way interaction between skill variety, promotion focus, and procedural justice climate such that the moderating effect of promotion focus on the relationship between skill variety and job crafting is stronger when procedural justice climate is low rather than high. In particular, the relationship between skill variety and job crafting is strongest when procedural justice climate is low and promotion focus is high. Besides, for low promotion-focused employees, the effect of skill variety on job crafting is stronger when procedural justice climate is high rather than low.

Method

Participants and Procedures

Data used in this study were collected as part of a large survey. Participants consisted of employees from a state-owned enterprise in the iron and steel industry located in North China. In consultation with the human resources managers, we invited 340 employees to participate. Survey packets were distributed during regular working hours. We attached a cover letter to ensure that participations were voluntary and that their responses were used only for research purposes. Participants could withdraw during the process of participation. In addition, we distributed two versions of questionnaires so that the order of survey items was counterbalanced. Half of the participants responded to the items measuring job crafting first, followed by those measuring predictors. Another half of the participants responded to the items in the reverse order. Confidentiality of the data collection procedures and the counterbalanced item order alleviate the potential for common method bias, with the latter also reducing the priming effect (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Two hundred and sixty-five usable responses from 44 work groups were returned, resulting in an overall response rate of 77.9%. Respondents were almost evenly split by gender, with 48.4% of them were male. The average age of participants was 39.5 years ($SD = 7.4$). For their education backgrounds, 41.0% reach high school or below, 36.9% held associate degrees, and 22.1% held bachelor degrees or above. The number of employees responded in each work group ranged from 3 to 13 with the average being 7.3 per work group. On average, they had worked for 18.1 years ($SD = 9.0$) in the company. No significant differences were found between the average age, gender, education, and organizational tenure of respondents and non-respondents.

Measures

All the materials used in this study were presented in Chinese. Following the

back-translation procedures, we translated the measures into Chinese to retain all the meanings of the items (Brislin, Lonner, & Thorndike, 1973). We also adjusted some wordings to ensure clarity. All items were responded on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). We computed a composite score by averaging all the items for each construct.

Skill variety. We used a 3-item scale adapted from Morgeson and Humphrey (2006) to measure skill variety. One sample item was “The job requires me to utilize a variety of different skills in order to complete the work.” Cronbach’s alpha coefficient was .82.

Promotion focus. Promotion focus was measured with a 4-item scale developed by Lockwood et al. (2002) and adapted from Zhou et al. (2012). One sample item was “In general, I am focused on achieving positive outcomes in my life.” The Cronbach’s alpha coefficient for this scale was .75.

Procedural justice climate. Procedural justice climate was measured using a 4-item procedural justice scale from Byrne (1991). One sample item was, “The organization’s procedures and guidelines are very fair.” The Cronbach’s alpha coefficient was .61. Following the direct-consensus composition approach (Chan, 1998), we created the construct of procedural justice climate, which was a group-level variable. In support of aggregation, the mean γ_{wg} (using a uniform null distribution) for the procedural justice climate was .82, above the acceptable criteria of .70 (James, Demaree, & Wolf, 1984). Besides that, the variance between work groups was significant, $F(43, 216) = 1.93; p < .01$. $ICC(1) = .14$, and $ICC(2) = .48$ also showed acceptable inter-rater reliability and the reliability for a group mean index. The relatively low score of $ICC(2)$ may stem from the small Level-2 sample size (Bliese, 2000). Considering all the above results as well as the theoretical foundation, we can conclude that aggregation for this variable was justified.

Job crafting. Job crafting reflects the extent to which employees’ redefine and

modify their own jobs. Although Tims and colleagues (2012) developed a scale based on the job demands-resources (JD-R) model, it was primarily used for such issues as workplace stress and employee well-being (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Therefore, we assessed employee job crafting using Sekiguchi and colleagues' (2012) 12-item measure, which was based on Wrzesniewski and Dutton's (2001) original conceptualization. Each of the three dimensions (i.e., task crafting, relational crafting, and cognitive crafting) has four items. Sample items included, "Change the content and/or procedure of my job to be more desirable" for task crafting, "Actively interact with people through my job" for relational crafting, and "Reframe my job as significant and meaningful" for cognitive crafting. The results of confirmatory factor analysis (CFA) supported the three-dimensional structure ($\chi^2[51] = 143.39, p < .001$; CFI = .94; IFI = .94; RMSEA = .08), testifying for the validity of the job crafting scale. The overall Cronbach's alpha coefficient was .90.

Control variables. We introduced several control variables into our analyses to minimize the potential influences of exogenous variables. Employees' demographic information comprised our primary controls, including their gender (coded as 0 = male, 1 = female), age (in years), education (coded as 1 = high school or below, 2 = associate degree, and 3 = bachelor degree or above), and organizational tenure (in years).

Results

Measurement Properties

Because our data were collected using self-reported measures, we conducted a Harman's single-factor test to ensure that our findings were not attributed to common method variance. The results revealed no evidence of this concern. Next, to assess the measurements' discriminant validity, we performed a series of CFAs using open source R program (R Core Team, 2013) in combination with the package "lavaan" (Rosseel, 2012). Since the original

measures consisted of too many indicators, we reduced the number of indicators for each latent construct. First, we parceled items under each dimension of job crafting to form three indicators. Then, we simplified the indicators for procedural justice and promotion focus following Mathieu and Farr (1991) to yield three aggregated indicators. Because skill variety had only three items, we did not parcel its items. The proposed four-factor baseline model showed an excellent fit to the data ($\chi^2[48] = 116.73, p < .001$; CFI = .92; IFI = .92; RMSEA = .07), with each indicator loaded on the intended latent construct (significantly at $p < .01$ level). The results indicated adequate discriminant validity for scales used in hypotheses testing (Browne & Cudeck, 1993).

Hypotheses Testing

Table 1 presents the means, standard deviations, and intercorrelations among all the variables in this study. Consistent with our predictions, skill variety correlates positively with job crafting ($r = .34, p < .01$), lending initial support for Hypothesis 1.

Insert Table 1 about here

In the present study, participants (Level-1) were grouped within their work groups (Level-2). That is, our data had a nested structure, so we used the package “lme4” (Bates, Maechler, Boelker, & Walker, 2013) in the R programming environment to examine the hypotheses. We group-mean centered all the Level-1 variables to avoid influencing the between-group and cross-level interactions (Hofmann & Gavin, 1998). In order to alleviate multicollinearity in the Level-2 estimation, we grand-mean centered procedural justice climate (Enders & Tofighi, 2007).

We followed the procedures suggested by Aguinis, Gottfredson, and Culpepper (2013) to examine our hypotheses. In the first step, we ran a null model (Model 1) with no predictors but job crafting as the outcome. The results, including those of variance analyses,

were reported in Table 2. Then, we computed the intraclass correlation (ICC) for the null model, which explains the percentage of the total variation in employee job crafting behavior accounted for by group differences (Aguinis et al., 2013). The results (ICC = .22) indicated that there exists Level 2 variables (i.e., procedural justice climate) that can explain the heterogeneity of job crafting scores across work groups. Therefore, multilevel modeling is an appropriate analytical technique for the hypothesized relationships (Mathieu, Aguinis, Culpepper, & Chen, 2012). In the following steps, we employed a series of moderated multiple regressions in multilevel modeling to examine our hypotheses (Hox, 2010). The equations used in the null model and final analysis are available in the Appendix.

Insert Table 2 about here

Hypothesis 1 predicted that skill variety has a main effect on employee job crafting. The results of Model 2 suggest that, after control variables are accounted for, skill variety is significantly related to job crafting ($\gamma = .18, t = 2.14, p < .01$), indicating the significant effect of skill variety. Therefore, Hypothesis 1 is supported.

Hypothesis 2 predicted that promotion focus moderates the relationship between skill variety and job crafting. The results of Model 3 indicate the existence of this interactive effect ($\gamma = .10, t = 1.97, p < .05$). Following the Johnson-Neyman (J-N) technique outlined in Bauer and Curran (2005), we plotted and examined the pattern of this interaction (see Figure 2). We also calculated the simple slopes of job crafting on skill variety (Preacher, Curran, & Bauer, 2006). Simple slope analyses reveal that the effect of skill variety on job crafting is stronger when promotion focus is high rather than low ($b = .21, z = 2.39, p < .05$ and $b = -.03, z = -.37, n.s.,$ respectively). Therefore, Hypothesis 2 is supported.

Insert Figure 2 about here

Hypothesis 3 predicted a cross-level three-way interaction between promotion focus, skill variety, and procedural justice climate on job crafting. Specifically, it was thought that the interactive effects of promotion focus and skill variety differ depending on the levels of procedural justice climate. The results of Model 4 reveal a significant three-way interaction term ($\gamma = -.36, t = -2.07, p < .05$). Following prior research (see Hofmann, Morgeson, & Gerras, 2003), we assessed the effect size of the interaction term using ordinary least squares (OLS) regression (with group-level procedural justice climate scores disaggregated to the individual level). The results demonstrate that this interaction accounts for an additional 2% of the variance in job crafting (i.e., $\Delta R^2 = .02$), indicating its significance (Champoux & Peters, 1987; Evans, 1985). Finally, following the common practice, we probed the pattern of this interaction by substituting group-level data into individual data and creating two groups on high and low levels of procedural justice climate (Herold, Fedor, Caldwell, & Liu, 2008). Graphical illustrations are shown in Figure 3 and 4. Because simple slope analyses are less appropriate to test whether the magnitude of the interaction effect varies according to the level of a moderator (Richter, Hirst, van Knippenberg, & Baer, 2012), we conducted a simple interactions test (Aiken & West, 2000) to investigate the interactive effect between skill variety and promotion focus at both high (+1 *SD*) and low (-1 *SD*) levels of procedural justice climate separately. The results reveal that while the skill variety \times promotion focus interaction is significant when procedural justice climate is low ($t = 2.77, p < .01$), it is nonsignificant when procedural justice climate is high ($t = .89, n.s.$). These results suggest that the moderating effect of promotion focus on the relationship between skill variety and job crafting is observed only in low procedural justice climate, which is consistent with our prediction.

Insert Figure 3 about here

Insert Figure 4 about here

Another angle of Hypothesis 3 proposed that procedural justice climate positively moderates the relationship between skill variety and job crafting for low promotion-focused employees. Therefore, we also tested the simple interaction between skill variety and procedural justice climate at a low ($-1 SD$) level of promotion focus. The result indicates the existence of a significant positive moderation by procedural justice climate ($t = 1.74, p < .05$, one-tailed). Such a pattern is consistent with our prediction. Taken together, Hypothesis 3 is supported.

Discussion

In light of the increasing calling for the integrative perspective on the antecedents of job crafting (Wrzesniewski & Dutton, 2001; Tims et al., 2013), we developed a multilevel model to understand the joint effects of jobs, employees, and group-level context in predicting employee job crafting. Results of our empirical study generally support our major hypotheses that incorporate different theoretical perspectives such as job characteristics, regulatory focus, and social exchange.

Theoretical Implications

The present article extends the knowledge of job crafting in several ways. First, we explicitly hypothesize and find that skill variety is an important predictor of job crafting across employees. Our finding enriches the understanding of the role of job characteristics as a major predictor of employee job crafting. Unlike other dimensions of job characteristics such as job autonomy (Petrou et al., 2012), the role skill variety plays in job crafting has not been explicitly examined in past studies. However, our study show that skill variety can stimulate employees to express their talents and seek meaningfulness.

Second, our multilevel model indicates that job crafting should be considered as a product of job, individual, and contextual factors. Our findings suggest that, in general, although a high level of skill variety motivates employees to craft their jobs, the strength of this effect depends on employees' inner motivational mechanism. Moreover, the results of the cross-level three-way interaction between skill variety, promotion focus, and procedural justice climate demonstrate that, while the combination of work itself and employee individual factors could be a powerful determinant of job crafting, between-group differences on work climate also have a significant impact on job crafting.

Third, our model and findings involving procedural justice climate have important implications for the purpose and motivation of job crafting. That is, our findings indicate that employees craft their jobs not only for themselves but also for the benefit of the organization. It appears that past research on job crafting heavily relies on the "self-interest" view that employees want to craft their jobs to obtain meaningfulness from their jobs (e.g., Berg et al., 2013; Wrzesniewski et al., 2013). Our study, on the other hand, sheds light on the social exchange view that employees will craft their jobs to reciprocate favorable treatment by the organization. Thus, our findings suggest the possibility that employees will engage in job crafting by different motives (e.g., self-interest and social exchange motives).

Limitations and Future Research Directions

The encouraging results from the present study should also be viewed in light of the limitations. First, the measures adopted in this article are self-reported. However, it might be unreasonable to measure the study variables using other-rated method. For example, it is hard for supervisors and peers to accurately rate one's job crafting, which involves cognitive deliberation processes (Wrzesniewski & Dutton, 2001). It is employees themselves who determine their modifications of job tasks and interpersonal interactions, which is difficult to observe. Moreover, cognitive crafting is hard to be perceived by others because it occurs in

one's mind (Berg et al., 2013). Therefore, it is appropriate to capture employee job crafting by the self-report measure.

Nonetheless, because our data are from the same source, common method variance may artificially influence the major findings (Podsakoff et al., 2003). However, we adopted both procedural and statistical remedies to mitigate this concern such as ensuring confidentiality of respondents, using a counterbalanced item ordering, and conducting a post hoc statistical test (Podsakoff et al., 2003). The results of Harman's single-factor analysis ensure that common method variance was not a serious issue. Moreover, because the major findings in this article are complex, such as a cross-level three-way interaction, they are less influenced by common method bias (Evans, 1985; Spector, 2006). Another potential limitation pertaining to the research design is that our study is essentially cross-sectional. Therefore, our data provides only limited support for causal inferences.

Future research could extend our theoretical framework and key findings involving job characteristics, employees, and their work group contexts as major determinants of job crafting. For example, other work characteristics such as feedback and task independence warrant further investigation. Examining other individual difference factors such as employee knowledge and skills related to the abilities to change job boundaries are also expected. Furthermore, investigating the outcomes of job crafting such as individual and group performance at high versus low levels of procedural justice climate would provide further evidence regarding the possibility that employee job crafting are driven by different motives (e.g., self-interest or social exchange motives).

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Table 1

Means, Standard Deviations, and Correlations among Study Variables

	Mean	SD	1	2	3	4	5	6	7	8
1. Skill variety	4.86	1.15	--							
2. Promotion focus	4.92	1.00	.33**	--						
3. Procedural justice climate	4.64	.48	-.07	.19**	--					
4. Job crafting	5.19	.92	.34**	.34**	.22**	--				
5. Gender	.52	.50	-.02	.03	.13*	.16*	--			
6. Age	39.51	7.44	.02	-.07	.01	-.01	-.04	--		
7. Education	1.81	.77	.10	.00	-.02	-.04	.03	-.34**	--	
8. Organizational tenure	18.10	8.99	.04	-.06	.02	.04	-.05	.90**	-.46**	--

Notes. Team $N = 44$; individual $N = 265$.

Gender: 0 = male; 1 = female.

* $p < .05$; ** $p < .01$.

The correlations and significance tests between individual-level variables and procedural justice climate are cross-level because the mean values of procedural justice climate were disaggregated to each member in the same work group.

Table 2

Results of Multilevel Modeling Analyses

Level and Variable	Job crafting			
	Model 1	Model 2	Model 3	Model 4
Level 1				
Control variables	—	—	—	—
Intercept (γ_{00})	5.21** (.08)	5.45** (.54)	5.45** (.54)	5.38** (.51)
Skill variety (γ_{10})		.18** (.06)	.17** (.06)	.21** (.06)
Promotion focus (γ_{20})			.09(.07)	.18*(.07)
Level 2				
Procedural justice climate (γ_{01})				.29*(.14)
Two-way interactions				
Skill variety \times promotion focus (γ_{30})			.10*(.05)	.11(.07)
Skill variety \times procedural justice climate (γ_{11})				-.06(.12)
Promotion focus \times procedural justice climate (γ_{21})				.17(.19)
Three-way interaction				
Skill variety \times promotion focus \times procedural justice climate (γ_{31})				-.36*(.18)
Within-group (Level-1) variance (σ^2)	.63	.61	.60	.52
Intercept (Level-2) variance (τ_{00})	.18	.08	.08	.07

Notes. Team $N = 44$; individual $N = 265$.

** $p < .05$; * $p < .01$.

Multilevel coefficients (standard errors) are reported.

We entered the control variables firstly in all analyses. Due to space limitation, results for control variables are not shown here, but are available from the authors.

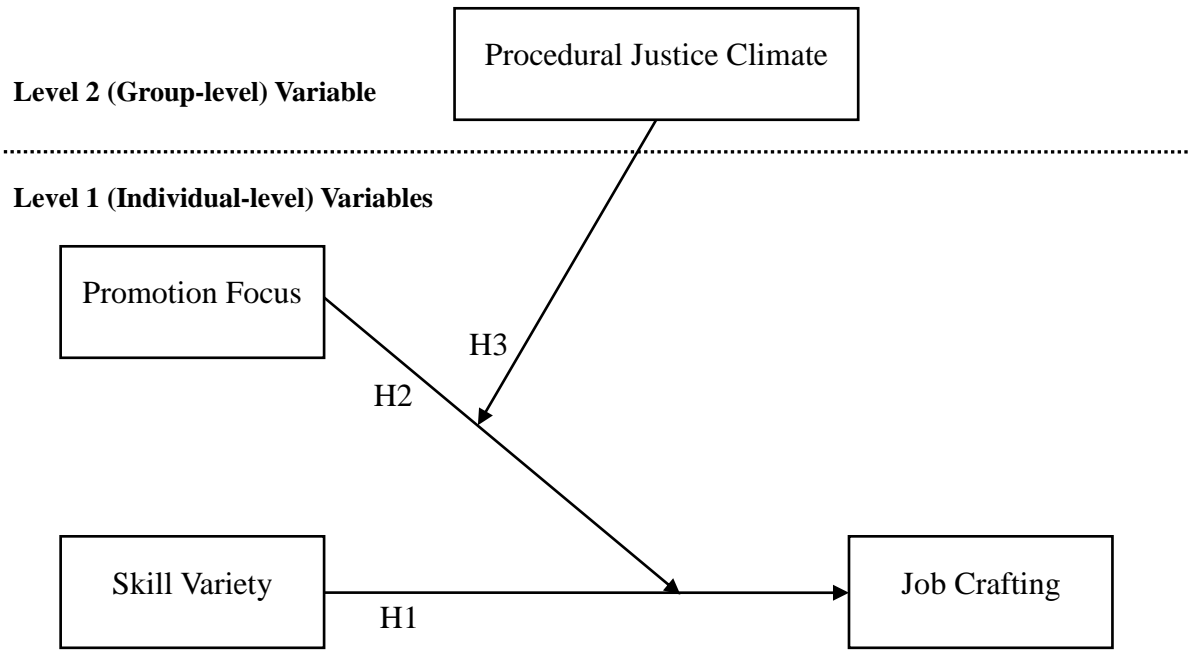


Figure 1. Hypothesized Model

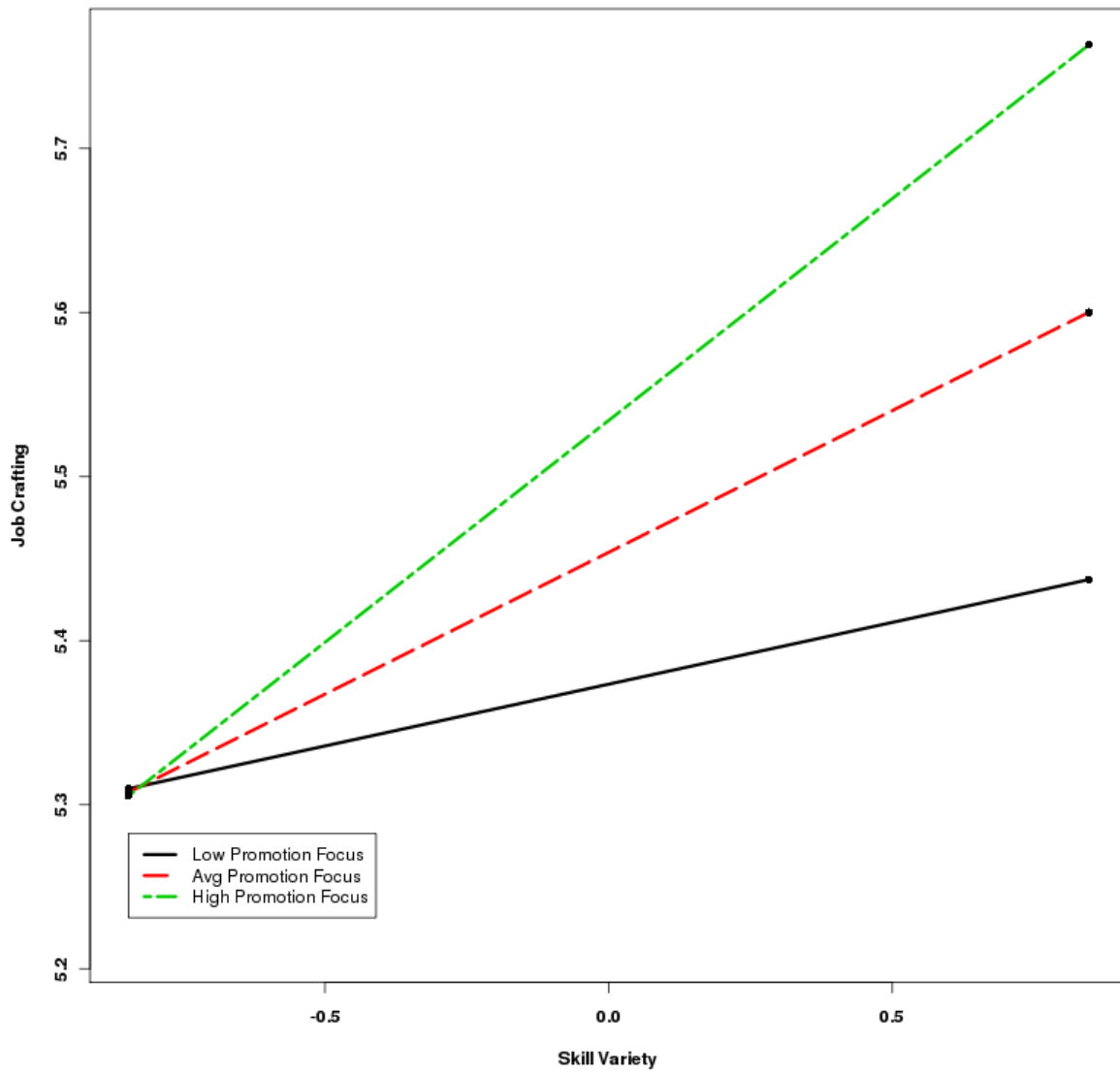


Figure 2. Interaction of Promotion Focus and Skill Variety on Job Crafting

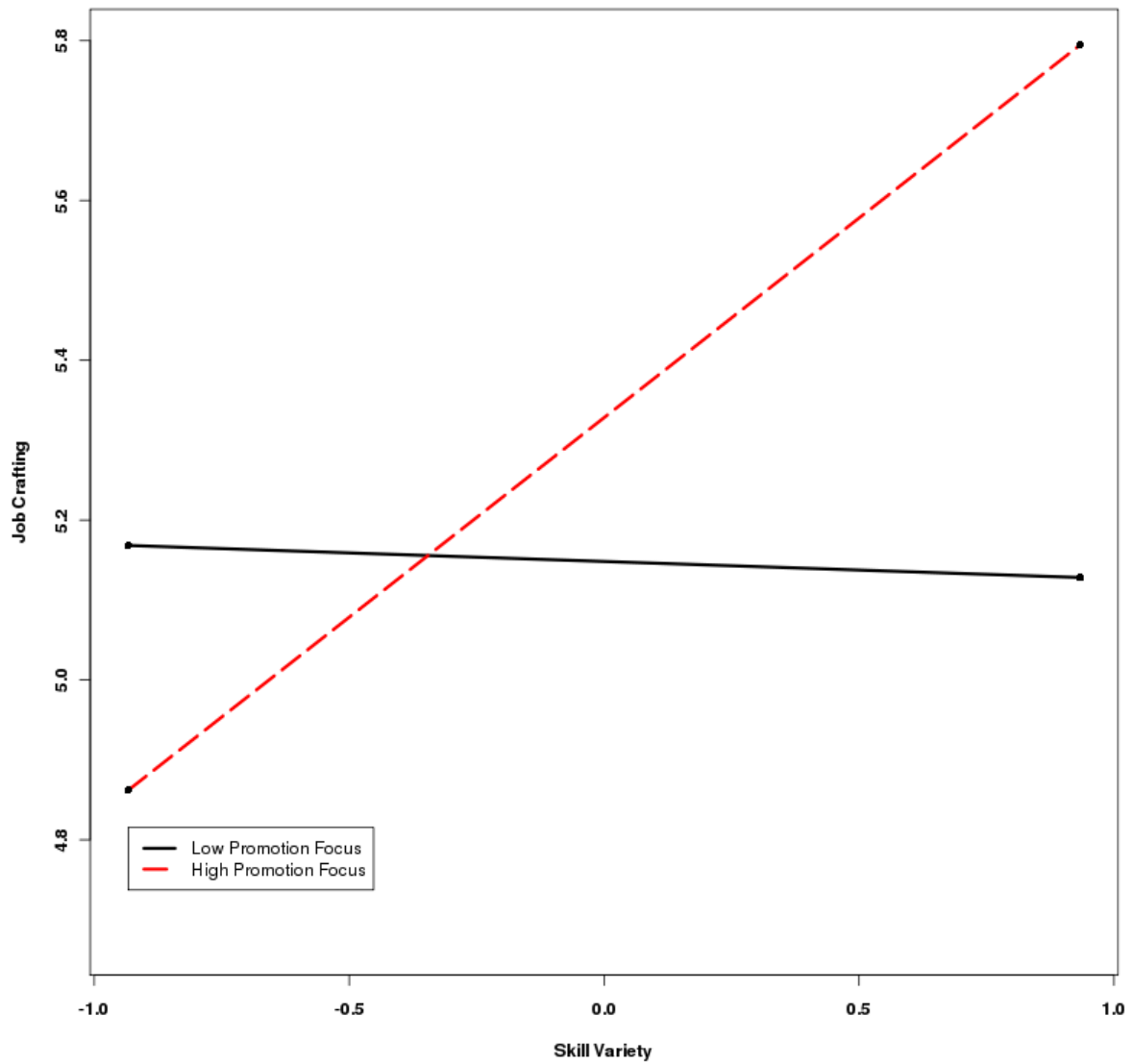


Figure 3. Interaction of Promotion Focus and Skill Variety on Job Crafting when Procedural Justice Climate is Low

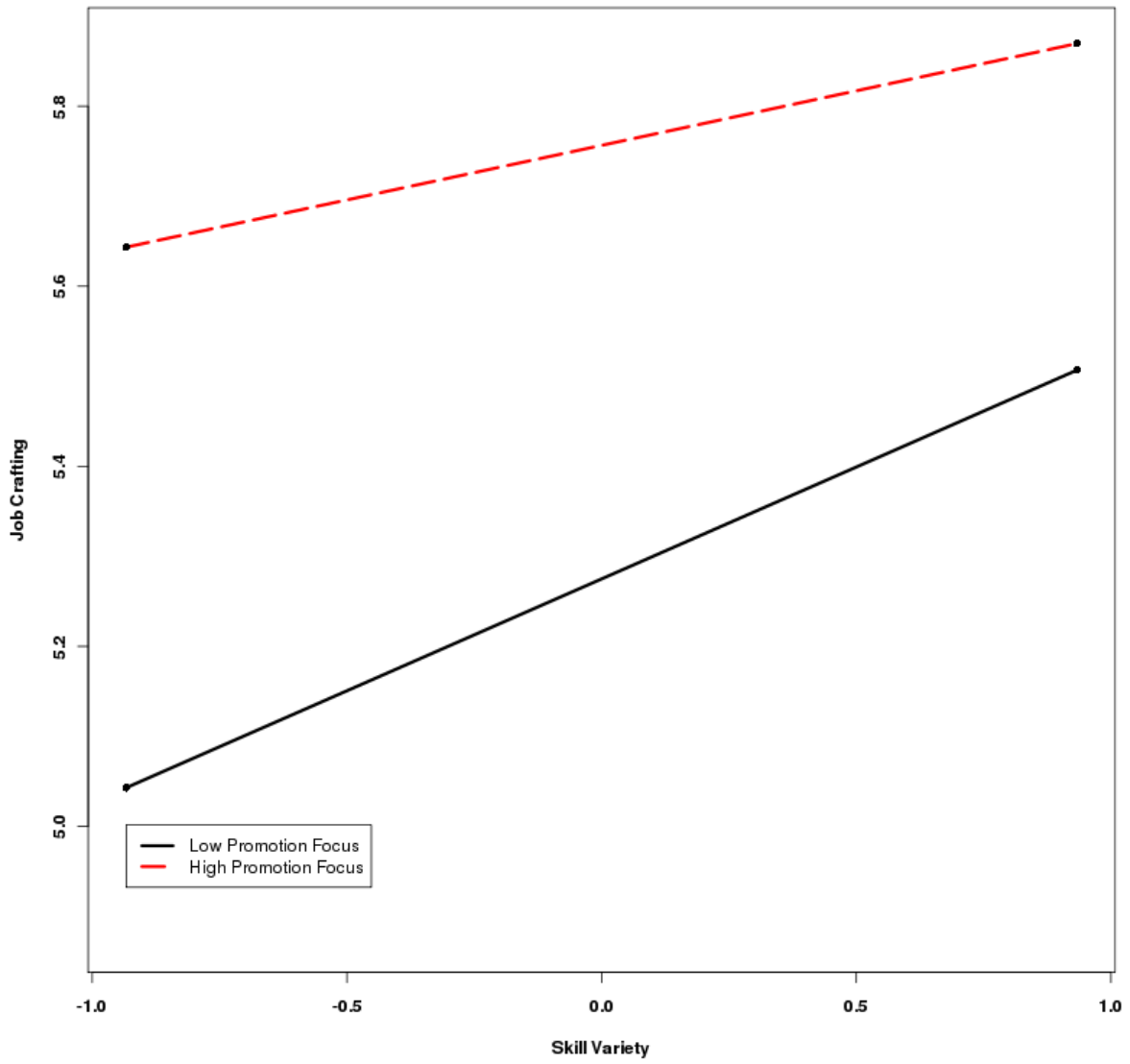


Figure 4. Interaction of Promotion Focus and Skill Variety on Job Crafting when Procedural Justice Climate is High

Appendix

Model Specifications

Null model (Random analysis of variance model)

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \gamma_{ij} \quad \gamma_{ij} \sim N(0, \sigma^2)$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j} \quad u_{0j} \sim N(0, \tau_{00})$$

Cross-level interaction model (for Hypotheses 3, not including control variables)

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij}) + \beta_{2j}(Z_{ij}) + \beta_{3j}(X_{ij} \cdot Z_{ij}) + \gamma_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \gamma_{01} \cdot W_j + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} \cdot W_j + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21} \cdot W_j + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31} \cdot W_j + u_{3j}$$

Y_{ij} = job crafting of individual i in work group j

X_{ij} = skill variety of individual i in work group j

Z_{ij} = promotion focus of individual i in work group j

W_j = procedural justice climate in work group j