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Daily job crafting and the self-efficacy – performance relationship

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Abstract

Purpose – The purpose of this paper is to examine whether job crafting and work enjoyment could explain the well-established relationship between self-efficacy and job performance. The authors hypothesized that employees would be most likely to engage in proactive job crafting behaviors on the days when they feel most self-efficacious. Daily job crafting, in turn, was expected to relate to daily performance through daily work enjoyment.

Design/methodology/approach – A daily diary study was conducted among a heterogeneous sample of employees ($N = 47$, days = 215). Participants completed the survey on five consecutive days.

Findings – The results of multilevel structural equation modeling analyses were generally in line with the hypotheses. Specifically, results indicated that employees who felt more self-efficacious on a given day were more likely to mobilize their job resources on that day. Daily job crafting, in turn, was positively correlated to work enjoyment and indirectly associated with performance. Participants reported elevated levels of performance on the days on which they enjoyed their work most.

Research limitations/implications – Self-reports were used to assess all constructs, which may result in common method bias. However, within-person correlations were moderate, and a two-level CFA indicated that a one-factor model could not account for all the variance in the data.

Originality/value – The findings of this study underscore the importance of daily proactive behavior for employee and organizational outcomes.

Keywords Employee behaviour, Job performance, Organizational behaviour, Individual behaviour, Motivation (psychology), Self-efficacy, Diary, Job crafting, Multilevel SEM, Work enjoyment

Paper type Research paper

The positive relationship between self-efficacy and performance has been supported in many studies. Two meta-analyses that specifically addressed the relationship between self-efficacy and job performance (Judge and Bono, 2001; Stajkovic and Luthans, 1998) reported statistically significant corrected correlations of 0.23 and 0.38, respectively, between self-efficacy and job performance. Bandura and Locke (2003) summarized evidence of this relationship from nine large-scale meta-analyses that were conducted in different performance areas (e.g. health functioning, psychosocial functioning). These authors convincingly demonstrated that self-efficacy has predictive value for motivation and performance. Self-efficacy may enhance performance because individuals who perceive themselves as highly efficacious will activate sufficient task-related effort and persist longer on the task despite setbacks. This self-regulatory behavior may increase the chances of successful outcomes. In contrast, individuals who perceive low self-efficacy may be more likely to discontinue their efforts and fail on the task. However, some authors have found that high levels of self-efficacy may actually undermine job performance because participants become overconfident and consequently allocate fewer resources to reach their goals (cf. Vancouver *et al.*, 2002). Given that job performance is arguably one of the most important outcomes in Industrial



and Organizational Psychology, it is crucial to also focus on the underlying mechanisms that may explain the self-efficacy – performance relationship (e.g. Stajkovic and Luthans, 1998).

In this light, the present study aims to contribute to the knowledge about the self-efficacy – performance relationship by examining whether employee job crafting and work enjoyment are able to explain this relation. Based on the Job Demands-Resources (JD-R) theory (Bakker and Demerouti, 2014), we argue that job crafting is a strategy through which highly self-efficacious employees may create a pleasurable work environment that positively contributes to their work performance. Self-efficacy has been suggested as a correlate of job crafting (Vough and Parker, 2008; Tims and Bakker, 2010); however, to our knowledge, this relation has yet to be empirically tested. In addition, although job crafting has emerged as a promising strategy for employees to increase their work-related well-being, research on this topic is relatively scarce.

Another contribution of this study is that we move beyond the commonly used between-person tests of the self-efficacy – performance relationship. Current knowledge about the link between self-efficacy and performance is predominantly based on studies at the between-person level, which presume stability within an individual. However, most behaviors fluctuate over time and are dependent on personal and/or situational conditions (Ohly *et al.*, 2010). In other words, how employees perform on a specific day is likely dependent on what occurs on that day and on how they experience that day. These day-to-day variations in individuals' behaviors and experiences are ignored or treated as measurement error in between-person studies (Fisher and Noble, 2004). With a daily survey, we can focus on the intra-individual variability in employees' behaviors and experiences (Sonnetag, 2003) and obtain accurate person-level summary variables on the variables of interest. Importantly, this study further explores the within-person relationship between self-efficacy and performance in a field setting. Finally, a methodological advantage of diary studies is that they reduce retrospective bias (Bolger *et al.*, 2003).

Self-efficacy and job performance at the day level

Self-efficacy is defined as the expectations that people have about their abilities to execute desired behaviors and to impact their environment successfully (Bandura, 1997). It is suggested that self-efficacy relates to performance because it influences both the activities that people pursue and how much effort they allocate to these activities (Bandura, 1997; Yeo and Neal, 2006). In addition, people who have a strong sense of self-efficacy will persist longer on the task to master the challenge of the task. This capacity for self-regulation is important for task performance (Gist and Mitchell, 1992).

Recent diary studies have indicated that the level of self-efficacy fluctuates on a daily basis, with as much as 48-63 percent of the variance attributable to within-person variations (Tims *et al.*, 2011; Xanthopoulou *et al.*, 2009). In addition, performance has also been found to be highly fluctuating, with 44-57 percent of the variability explained at the within-person level (Xanthopoulou *et al.*, 2009). In the present study, it is expected that higher levels of self-efficacy on a given working day will be associated with higher performance levels on that day. We expect this relationship to hold at the day level because employees who feel highly self-efficacious on a specific day may be more likely to regulate their activities and efforts to attain their performance goals that day. To illustrate this concept, consider a police officer who, on days when she feels confident in her abilities to handle unexpected situations (e.g. a hostage situation), will do her utmost to solve the problem (e.g. without violence). In contrast, on days when

she feels less confident (e.g. when tired or stressed), she may come up with fewer ideas to optimally solve the problem. In their diary study, Xanthopoulou *et al.* (2009) found that day-level self-efficacy positively related to day-level performance. However, as noted above, some within-person studies suggest that high levels of self-efficacy may impair performance (Vancouver and Kendall, 2006; Vancouver *et al.*, 2002). Schmidt and DeShon (2010) clarified these findings by demonstrating that performance ambiguity moderated the self-efficacy – performance relationship. Self-efficacy was negatively related to subsequent performance when the performance was highly ambiguous. When performance ambiguity was low, self-efficacy related positively to performance. In addition, in their experimental study, Cervone and Wood (1995) found that self-efficacy positively predicted performance only when participants were given an overall goal and specific feedback about that goal. Thus, the negative impact of self-efficacy on performance may be particularly evident under conditions wherein employees must choose between engaging in or withdrawing from a work activity, rather than in situations where the goal is already outlined (Richard *et al.*, 2006). In the present study, we expect that performance ambiguity will be low because the employees rated their performance on their daily tasks. Thus, we expect that:

H1. Day-level self-efficacy has a positive relationship with day-level performance.

Despite the greater effort and regulatory processes that employees may use when they feel highly self-efficacious, other underlying mechanisms that may contribute to performance remain unknown. We now turn to job crafting as a possible mediator in the relationship between day-level self-efficacy and day-level performance. The hypothesized model is presented in Figure 1.

Self-efficacy as an antecedent of job crafting

Employees who take the initiative to change or modify certain aspects of their jobs to fit their work with their own characteristics are called job crafters (Berg *et al.*, 2008; Wrzesniewski and Dutton, 2001). Job crafting is an activity that people spontaneously do to satisfy their needs and to realize their preferences at work (Kira *et al.*, 2010). Because job crafting is oriented toward proactively changing the work (environment) rather than other people, the organization, or the external environment, it has been situated under the general heading of “proactive person-environment fit behavior” (Grant and Parker, 2009). Thus, the focus on changing one’s job characteristics distinguishes job crafting from other proactive behaviors directed toward, for example, improved functioning of the organization (see Tims and Bakker, 2010).

Wrzesniewski and Dutton (2001) introduced the term “job crafting” when they noticed that employees were adapting their jobs on their own initiatives. Job crafters can change the task, relational, and cognitive boundaries of their jobs. Task boundaries are changed when employees alter the type or number of tasks that they carry out, whereas relational boundaries are changed when employees alter the range, nature, or

Level 1: Within-persons (day-level)

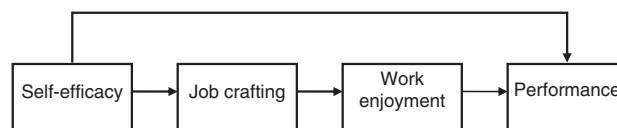


Figure 1.
Research model

number of their interactions at work. Cognitive boundaries are adapted when employees alter their views of their work. By crafting their job, employees may optimize aspects of their job to keep their work motivating and meaningful (Wrzesniewski and Dutton, 2001). Seeking to integrate job crafting into the job design literature, Tims and colleagues (Tims and Bakker, 2010; Tims *et al.*, 2012) framed job crafting using the JD-R theory (Bakker and Demerouti, 2014; Demerouti *et al.*, 2001). In general, the JD-R theory aids in the understanding of which job characteristics (i.e. job resources) may lead to positive employee and organizational outcomes. Building on this model, job crafting has been defined as the changes that employees make in their levels of JD-R on their own initiative (Tims *et al.*, 2012). Recent studies indeed suggest that employees craft their job characteristics (cf. Petrou *et al.*, 2012; Tims *et al.*, 2012, 2013).

In the present study, we focus on the crafting of job resources given that job resources can be used not only to achieve work goals (e.g. asking advice on how to perform a specific task) but also to learn new things and to personally grow at work (e.g. developing new skills). Finally, job resources enable employees to experience their job demands, as well as the associated physiological and psychological costs, as manageable (Schaufeli and Bakker, 2004). Thus, job resources can be intrinsically motivating because they lead to employee learning, growth, and development; alternatively, they can be extrinsically motivating because they are instrumental in achieving work goals (Bakker and Demerouti, 2014). In the present study, we included job resources at the task (variety) and organizational levels (learning opportunities).

Prior research has shown that self-efficacy is positively related to proactive work behaviors, such as taking charge. Taking charge refers to the behavior of employees who initiate and implement change in the organization to improve organizational functioning (Morrison and Phelps, 1999). In addition, self-efficacy is positively associated with personal initiative (Speier and Frese, 1997) and proactive coping (Salanova *et al.*, 2006). Based on these between-person studies, it appears that self-efficacy may be an antecedent of proactive behaviors. Thus, before engaging in proactive behaviors, employees assess the probability that their behaviors will be successful (Morrison and Phelps, 1999). Employees who expect that they can successfully shape their environment may be more likely to take on additional tasks or to use proactive strategies. Job crafting focusses on the process by which employees change their own job characteristics to, for example, satisfy their needs or develop their skills (Tims *et al.*, 2012; Wrzesniewski and Dutton, 2001). Thus, it is interesting to examine whether employees' self-efficacy relates to their specific activities on the job, including the consequences of such activities. We expect that self-efficacy will be positively related to job crafting because self-efficacious employees may feel more confident that they are able to change aspects of their jobs. This confidence may in turn be related to actual job crafting behaviors on a given day. Thus, we agree with Vough and Parker (2008), who stated that "as employees' self-efficacy increases, their beliefs about what can be done on the job and, subsequently, their actions on the job, may actually lead them to change the characteristics of the job" (p. 22). Therefore, we propose:

H2. Day-level self-efficacy is positively associated with day-level job crafting.

Job crafting and work enjoyment

Work enjoyment refers to the positive judgment about the quality of one's working life (Bakker, 2005, 2008); in other words, employees enjoy the activities they do at work. Research has shown that people who experience joy are also more likely to report other

positive emotions, such as feeling happy and excited (Posner *et al.*, 2005). Therefore, work enjoyment may be viewed as an indicator of positive work-related well-being (Bakker and Oerlemans, 2011). Work enjoyment differs from intrinsic motivation, which has been defined as the motivation to engage in an activity because the activity itself is valuable (Ryan and Deci, 2000). Whereas work enjoyment is the result of a cognitive and affective judgment of the flow experience (Bakker, 2008), intrinsic motivation is the result of engaging in a specific work activity.

Positive work-related affective states are driven by work-related phenomena (Clausen *et al.*, 2010). Many studies have shown the importance of a high level of job resources for work enjoyment (e.g. Bakker *et al.*, 2010) and work engagement (e.g. Schaufeli *et al.*, 2009; for a meta-analysis, see Halbesleben, 2010). We expect that when an employee proactively creates a work environment that is in accordance with his/her needs and preferences, (s)he experiences higher levels of work enjoyment. Initial empirical support for the hypothesized positive relationship between increases in job resources and work enjoyment can be found in the longitudinal study of Mäkikangas *et al.* (2010). Their latent growth curve analysis results indicated that higher levels of job resources predicted higher levels of flow (a composite score indicated by work enjoyment, intrinsic work motivation, and absorption) and that changes in the level of job resources were associated with the same changes in flow across the three measurements.

In addition, Bakker *et al.* (2012) observed that employees who indicated that they crafted their job resources and job challenges reported higher levels of work engagement, and received higher performance ratings from their coworkers. Petrou *et al.* (2012) demonstrated that daily job crafting was associated with daily work engagement. More specifically, “seeking challenges” was positively and “reducing demands” was negatively associated with daily work engagement, whereas the relationship between “seeking resources” and work engagement was not statistically significant at the day level. The study of Petrou and colleagues was among the first to examine the relationship between job crafting and work engagement using a diary study. Our study builds on this study, given that it examines other correlates of daily job crafting. Based on the literature review, we expect that employees experience more work enjoyment on days that they increase their job resources. Namely, when employees mobilize job resources through job crafting they may create a work environment that fulfills their needs and abilities (cf. Tims and Bakker, 2010). People who experience a congruence between their individual characteristics and key aspects of their work environment will likely experience more positive work-related affective states (Maslach and Leiter, 1997). Another line of reasoning acknowledges the fact that job resources facilitate personal growth, learning, and development that, through satisfying the basic needs for autonomy, relatedness, and competence, may lead to the experience of work engagement and other positive attitudes (Schaufeli and Bakker, 2004). Finally, we expect that there may be a relationship between self-efficacy and work enjoyment because efficacy beliefs have been shown to relate to emotions such that high levels of self-efficacy are associated with positive emotions (Leganger *et al.*, 2000). However, based on the JD-R model, we expect this relationship to be stronger via job crafting because employees who work in an environment that is characterized by ample job resources are most likely to experience positive affective states, such as enjoyment, at work (Halbesleben, 2010):

H3. Day-level job crafting mediates the relationship between day-level self-efficacy and day-level work enjoyment.

Job performance

Finally, we aim to examine a model in which employees who craft their job resources and thus enjoy their work more use these positive feelings to enhance their subsequent work performance. A recent study by Leana *et al.* (2009) demonstrated that early childhood education teachers who crafted their jobs provided higher quality care according to observers, indicating that job crafting seems to benefit both the individual and organization. In addition, Tims *et al.* (2012) found that crafting job resources was positively correlated with peer-rated performance.

Studies investigating the relationship between emotions and performance strongly support the idea that happy employees perform better than unhappy employees (Wright *et al.*, 2002). Happy employees are more sensitive to opportunities in their work environment, are more outgoing and helpful to their coworkers, and are more optimistic and confident; in turn, these attributes may result in better performance (Cropanzano and Wright, 2001). Zelenski and colleagues (2008) demonstrated that positive affect was most strongly related to performance, compared to job satisfaction, life satisfaction, and the quality of working life. Positive affect was measured with positive emotion descriptors, such as enthusiastic, excited, and joyous, which correspond to the measure of work enjoyment employed in the current study. Positive emotions are found to broaden one's attention, thinking, and behavioral repertoires, as well as to build one's enduring personal resources, which may relate to better performance (Fredrickson, 1998). Staw *et al.* (1994) found that employees' positive emotions at the baseline were associated with higher supervisor ratings and pay 18 months later. In a study that specifically addressed the relationship between work enjoyment and performance, Bakker (2008) found that work enjoyment (as compared to intrinsic motivation and absorption) was the strongest predictor of others' ratings of an employee's performance. Thus, employees who enjoyed their work more also performed their job tasks better.

Meta-analytic evidence for better performance resulting from positive emotions is also available (see Kaplan *et al.*, 2009; Lyubomirsky *et al.*, 2005). Thus, we expect that work enjoyment will be positively related to performance. In addition, as discussed above, job crafting may be positively related to performance, possibly because employees craft their work environment such that it provides them with the resources needed to perform their job tasks. Given that job resources are functional tools with which work goals can be achieved (Demerouti *et al.*, 2001), a positive relationship between resources and performance would be assumed. However, we expect that work enjoyment mediates this relationship because the higher level of job resources will trigger a motivational process that relates to higher levels of work enjoyment, which in turn relates to performance (Bakker and Demerouti, 2014; Demerouti and Cropanzano, 2010):

H4. Day-level work enjoyment mediates the relationship between day-level job crafting and day-level performance.

Together, these hypotheses lead to a final model in which day-level job crafting and work enjoyment sequentially mediate the relationship between day-level self-efficacy and performance (see Figure 1):

H5. Day-level self-efficacy is positively related to day-level performance via day-level job crafting and work enjoyment.

Method

Procedure and participants

A total of 47 employees from various organizations volunteered to take part in this diary study. The data were collected among small businesses in the information technology sector. Approximately 100 employees received an e-mail explaining the goals of the survey and assuring anonymity (response rate: 47 percent). Participants primarily worked as programmers (28 percent), software/web developers (13 percent), or project managers (5 percent). Other participants did not report their job type. We specified beforehand which organizations would be invited to participate and thus expect that these three job types are representative of the total sample. Participants were instructed to complete the survey at the end of the workday on five consecutive working days. As our sample approximates 50 cases at the between-person level, the sample is adequate for robust estimations (cf. Maas and Hox, 2005). Furthermore, the number of days, rather than the number of persons, is used, which effectively results in a sample size of 215 cases. The sample consisted of 39 men (83 percent) and eight women (17 percent). Their mean age was 27.07 (SD = 5.21) years, and their mean organizational tenure was 5.40 (SD = 5.59) years. On average, participants worked 37.53 hours a week (SD = 4.21). Educational levels varied between master's degrees (38.3 percent), bachelor's degrees (21.3 percent), and lower education (40.4 percent).

Measures

Before the participants began the diary survey, they reported their gender, age, organizational tenure, working hours per week, and educational levels. The daily survey measured each participant's level of self-efficacy, job crafting behavior, work enjoyment, and performance. Short scales are preferred in daily assessments; thus, for certain scales (e.g. self-efficacy and performance), we selected items based on their face validity.

Day-level self-efficacy was measured with three items from Schwarzer and Jerusalem's (1995) scale that were adapted to refer to the specific workday (e.g. "Today, I trusted that I could handle unexpected events effectively"). The response categories ranged from 1 (not at all characteristic of me) to 5 (very characteristic of me). Cronbach's α ranged from 0.62 to 0.90 over the five days ($M = 0.75$).

Day-level job crafting was measured with four items. The items were generated from the total item pool of the recently developed and validated job crafting scale (Tims *et al.*, 2012)[1]. The items referred to participant behavior that increased the level of daily job resources. An example item is: "Today, I tried to do varying tasks at work." The scale anchors ranged from (1) not at all characteristic of me to (5) very characteristic of me. Cronbach's α ranged from 0.66 to 0.84 over the five occasions ($M = 0.74$).

Day-level work enjoyment was measured with the three items of the instrument developed by Bakker (2008), and the items were adapted so that they referred to the specific day. An example item is: "Today, I felt cheerful when I was working." The scale anchors ranged from (1) totally disagree to (5) totally agree. Cronbach's α ranged from 0.69 to 0.82 over the five days ($M = 0.79$).

Day-level performance was measured with four items of Williams and Anderson's (1991) scale that were adapted to the day level (the negatively worded items were not included). An example item reads: "Today, I adequately completed assigned duties." The answering categories ranged from (1) not at all characteristic of me to (5) very characteristic of me. Cronbach's α of this scale ranged from 0.85 to 0.90 ($M = 0.88$).

Strategy of analysis

Every participant responded to the same questions for five consecutive days. The use of multilevel analysis is required because these daily observations are not independent from each other (Hox, 2002; Preacher *et al.*, 2010). To analyze the multilevel data, we used the Mplus program (Muthén and Muthén, 1998), with which it is possible to perform multilevel structural equation modeling (SEM). Maximum likelihood parameter estimation was applied in the analyses. Given that we only measured variables at the day level (within-person), we do not report results at the second level (between-person). The hypotheses were tested based on the guidelines provided by Mathieu and Taylor (2007) for testing mediational relationships in multilevel studies. That is, all paths necessary for mediation (i.e. paths from predictors to mediators, from mediators to outcomes, and from predictors to outcomes) were modeled when testing the specific hypotheses. Self-efficacy, job crafting, and work enjoyment were group-mean centered because we were interested in the day-level relationships between the study variables (Ohly *et al.*, 2010). With this approach, the within-person relationships are not confounded by individual differences, thereby eliminating alternative explanations, such as differences in individual response tendencies or personality traits (Scott and Judge, 2006).

Multilevel modeling is only useful when a model with two levels (between-person and within-person variance) explains the data better than a model with one level (Dierdorff and Ellington, 2008). The intra-class correlation (ρ) explains how much of the variance may be attributed to the different levels of analysis. The ρ of performance indicated that 30 percent of the variance is attributable to between-person fluctuations and 70 percent to within-person fluctuations. This result implies that there is sufficient variance in performance attributed at both the between- and within-person levels. Additional analyses also supported daily fluctuations in the other variables (55-97 percent of the variance that was attributable to within-person variations). These results emphasize that the multilevel structure of our data should be considered when testing the study hypotheses.

Results

Descriptive statistics

Table I presents mean scores, standard deviations, and correlations among the study variables. To establish the convergent and discriminant validity of our measures, we conducted a CFA. Specifically, we tested our measurement model by comparing our five-factor model (self-efficacy, two types of job crafting, work enjoyment, and performance) with a competing one-factor model, in which all items loaded on the same factor (e.g. Podsakoff *et al.*, 2003), as well as a four-factor model, in which the job crafting items were modeled to load on the same factor. Model fit was assessed with the

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Day-level self-efficacy	3.56	0.06	–				
2. Day-level crafting variety	3.50	0.07	0.23***	–			
3. Day-level crafting learning opp.	3.83	0.16	0.22**	0.29***	–		
4. Day-level work enjoyment	3.54	0.06	0.15*	0.40***	0.23***	–	
5. Day-level performance	4.06	0.05	0.26***	0.23***	0.14*	0.26***	–

Notes: Opp., opportunities. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table I.
Means, standard
deviations, and
correlations between
study variables ($N = 47$
persons, $n = 215$ days)

χ^2 statistic, the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR) (Kline, 2005). The conventional cut-off values of these fit indices were used to judge model fit (i.e. CFI and TLI > 0.90, and RMSEA and SRMR < 0.08 to indicate good fit; Marsh *et al.*, 2004).

The five-factor model exhibited the best fit: $\chi^2 = 235.35$, $df = 193$, $p = 0.02$, CFI = 0.97, TLI = 0.96, RMSEA = 0.04, SRMR = 0.07/0.13, which was better than the fits of the one-factor model ($\Delta\chi^2 = 706.78$, $\Delta df = 27$, $p < 0.001$, CFI = 0.33, TLI = 0.27, RMSEA = 0.25, SRMR = 0.18/0.49) and four-factor model ($\Delta\chi^2 = 73.63$, $\Delta df = 40$, $p < 0.001$, CFI = 0.87, TLI = 0.84, RMSEA = 0.07, SRMR = 0.09/0.22).

Test of the hypotheses

In *H1*, we predicted a positive association between self-efficacy and performance at the day level. This relation was statistically significant ($\gamma = 0.21$, $p < 0.01$), supporting *H1*. For *H2*, we expected that self-efficacy would be positively associated with job crafting. Both relationships were statistically significant: self-efficacy was associated with crafting variety ($\gamma = 0.23$, $p < 0.01$) and crafting learning opportunities ($\gamma = 0.22$, $p < 0.01$). Thus, *H2* also gained support.

In *H3*, we formulated a mediation model in which day-level job crafting would mediate the relationship between day-level self-efficacy and day-level work enjoyment. Crafting variety was related to work enjoyment ($\beta = 0.36$, $p < 0.01$); however, crafting learning opportunities was not related to work enjoyment ($\beta = 0.11$, $p = 0.08$). The association between self-efficacy and work enjoyment was statistically significant but became non-significant when we included the mediators (γ was 0.15, $p < 0.05$ and then became 0.04, $p = 0.51$). The standardized estimate of the association of self-efficacy with work enjoyment via crafting variety was statistically significant: 0.08, $p < 0.01$. The 95 percent confidence interval (CI) of the estimate of the relationship between self-efficacy and work enjoyment, while controlling for crafting variety, did not include zero (0.24-0.48). The relationship between self-efficacy and work enjoyment via crafting learning opportunities was not statistically significant because there was no relationship between crafting learning opportunities and work enjoyment (bootstrap estimate: 0.03, $p = 0.12$, CI = -0.01-0.06). Based on these results, we conclude that day-level crafting variety mediated the relationship between day-level self-efficacy and day-level performance.

Next, we tested *H4*, in which we expected that day-level work enjoyment would mediate the relationship between day-level job crafting and day-level performance. *H4* was supported with regard to the mediation of day-level crafting variety: The relationship between crafting variety and work enjoyment was statistically significant ($\beta = 0.37$, $p < 0.01$), and work enjoyment was also related to performance ($\beta = 0.20$, $p < 0.01$). However, the association between crafting variety and perceived performance was not statistically significant ($\beta = 0.13$, $p = 0.07$). The test of the relationship between day-level crafting variety and day-level performance via day-level work enjoyment was statistically significant (estimate = 0.07, $p < 0.05$, CI = 0.02-0.13). Day-level crafting learning opportunities was marginally related to work enjoyment ($\beta = 0.12$, $p = 0.06$), which resulted in a statistically non-significant relationship between crafting learning opportunities and performance when controlling for work enjoyment (estimate = 0.02, $p = 0.12$, CI = -0.01-0.05). Thus, the idea that work enjoyment would mediate the relationship between crafting learning opportunities and performance was rejected.

Test of the hypothesized model

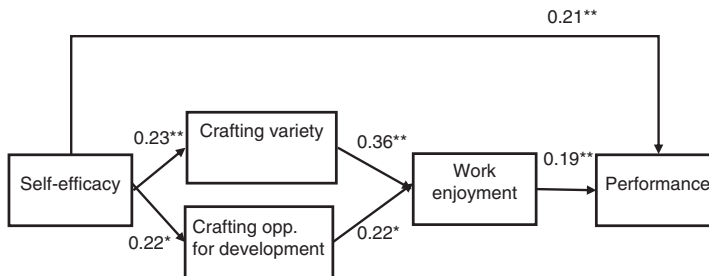
Finally, in *H5*, we proposed a sequential path model in which day-level self-efficacy relates to day-level performance via day-level job crafting and work enjoyment. Based on the results of *H1-H4*, we specified relationships from self-efficacy to crafting variety, crafting learning opportunities, and performance; from crafting variety to work enjoyment and performance; and from work enjoyment to performance. Figure 2 displays the final model. Self-efficacy was positively related to crafting variety ($\gamma = 0.23, p < 0.01$), crafting learning opportunities ($\gamma = 0.22, p < 0.01$), and performance ($\gamma = 0.21, p < 0.01$). Crafting variety was positively related to work enjoyment ($\beta = 0.36, p < 0.01$), and work enjoyment was positively associated with job performance ($\beta = 0.19, p < 0.01$). The relationship between self-efficacy and performance, when controlling for the relationship with crafting variety and work enjoyment, was statistically significant (estimate = 0.02, $p < 0.05$, CI = 0.001-0.03), thereby providing initial support for *H5*. The fit of the hypothesized model was good: $\chi^2 = 2.66, df = 2, p = 0.26, TLI = 0.97, CFI = 0.99, RMSEA = 0.04, SRMR = 0.03/0.00$. Finally, the explained variance for each step in the hypothesized model was as follows: self-efficacy, job crafting, and work enjoyment explained 13 percent of the variance in performance; self-efficacy and job crafting together explained 17 percent of the variance in work enjoyment; and self-efficacy explained 5 percent of the variance in day-level crafting variety, as well as 5 percent of the variance in day-level crafting learning opportunities.

Discussion and conclusion

The present study aimed to empirically address whether job crafting and work enjoyment mediated the relationship between self-efficacy and job performance. We focussed on daily fluctuations in these variables (i.e. within-person design). In line with our expectations, we found evidence that both day-level job crafting and work enjoyment could partly explain the relationship between day-level self-efficacy and day-level performance. We discuss the findings in more detail below.

Implications for theory

The present study made several contributions. First, we followed approximately 50 people for five days and found that they reported higher levels of performance on days when they felt self-efficacious. Thus, we replicated the well-established relationship



Level 1: Within-persons (day-level)

Notes: Standardized regression weights are displayed. * $p < 0.05$; ** $p < 0.01$

Figure 2. Final model based on results of multilevel structural equation modeling

between self-efficacy and performance at the day level. Although our study design does not allow us to make conclusions about causality, other studies have demonstrated that self-efficacy is a predictor of subsequent performance (Stajkovic and Sommer, 2000). The present study demonstrated that levels of self-efficacy may fluctuate on a daily basis and that subjective performance varies accordingly. Contrary to the findings of Vancouver *et al.* (2002), we found a positive relationship between day levels of self-efficacy and self-reported performance. This finding may be explained by the fact that we assessed participants' performance ratings of their daily work tasks (e.g. clearly defined work projects). It is expected that participants were largely able to estimate how they carried out their daily tasks, which reduces the possibility that overconfidence in their abilities may result in lower performance (e.g. Schmidt and DeShon, 2010).

Second, previous studies demonstrated that perceived self-efficacy is related to proactive work behaviors (Morrison and Phelps, 1999; Speier and Frese, 1997). In line with these findings at the between-person level, we found evidence for daily positive associations between self-efficacy and proactive job crafting behaviors. That is, efficacious employees were most likely to proactively search for more opportunities to learn new things and/or to seek more variety in their job tasks than employees who scored low on self-efficacy. This finding reinforces the important relationship between self-efficacy and proactive work behaviors that are beneficial for employees (i.e. job crafting). In turn, day-level crafting was positively associated with day-level work enjoyment, and work enjoyment related positively to performance. These findings provide initial support for the assertion that employees who craft their jobs likely change how they feel and perform at work (Tims and Bakker, 2010; Wrzesniewski and Dutton, 2001). Interestingly, day-level crafting learning opportunities was not associated with work enjoyment and performance. Previous within-person studies have demonstrated that working on a task for which one is unskilled may produce negative emotions, such as worry and frustration. In contrast, working on a task for which one feels skilled is associated with higher self-reported enjoyment and performance (Alliger and Williams, 1993; Fisher and Noble, 2004). Thus, it could be that on days when employees tried to learn something new, they experienced emotions other than enjoyment (e.g. frustration or interest) and may have been less focussed on their job performance and more focussed on the development of their skills.

Moreover, job crafting may be seen as a promising concept in organizations because it not only relates to employee subjective well-being but also to self-perceived performance. Our results supported the hypothesis that crafting more job resources (i.e. variety) would be positively associated with work enjoyment. In line with the between-person studies that also reported a positive relationship between increasing job resources and positive work-related feelings (Bakker *et al.*, 2012; Tims *et al.*, 2012), the present study provides support for these findings at the day level.

A final contribution of the present study is the diary design and the novel multilevel SEM analysis employed to analyze our hypothesized model. By measuring the study variables at the within-person level, this diary study contributes to a better understanding of the dynamic antecedents and consequences of job crafting in employees' day-to-day experience of work (Bolger *et al.*, 2003).

Implications for practice

The present study underscores the important relationship that self-efficacy shares with employee proactive behavior and performance. This interrelationship may imply that

when organizations expect proactivity from their employees (cf. Bolino *et al.*, 2010), they could stimulate this proactivity by strengthening their employees' senses of self-efficacy. Mechanisms to increase self-efficacy are well developed and can be found in Bandura (1997). Here, we would like to focus on how to increase job crafting among employees. First, awareness of the possibilities to engage in job crafting should be enhanced. For example, workshops in which employees receive information about job crafting and can experiment with crafting may signal to employees that they may take the initiative to craft their jobs (e.g. Van den Heuvel *et al.*, 2012). In addition, experiencing the positive effects of job crafting during training sessions will lead more readily to future job-crafting behaviors. Also, feedback about JD-R may trigger job crafting when the feedback signals a discrepancy between the current level of job characteristics and the job characteristics preferred by the employee. Furthermore, employees or leaders who are proactive at work could serve as role models for less proactive employees. For example, Belschak and Den Hartog (2011) found that employees with proactive leaders were likely to imitate their leaders' proactive behavior when they scored high on positive affect. As such, proactive behaviors may be enhanced, and this enhancement is associated with work enjoyment and improved performance.

This study also has practical implications for society as a whole and for organizations in particular. Employees' self-efficacy, work experiences, and behaviors were found to fluctuate on a daily basis, likely because of specific events that occur in their (work) environments. In this study, we found that higher levels of self-efficacy were associated with self-reported performance and more proactive work behaviors. Individuals who reported that they took initiative to increase the availability of job resources in their work environments were more likely to experience their work as joyful and pleasant. Based on the current knowledge of the self-efficacy – performance relationship at the within-person level, it appears important to assign employees clear work goals and to assist them in how they may create or craft a work environment that contributes to their subjective well-being. This improved work environment may in turn contribute to society as a whole by facilitating individuals' well-being and productivity (Decker *et al.*, 2012).

Study limitations and future research

Despite the contributions of this study, we must also acknowledge some limitations. One limitation is the use of self-reports in this study. It should be noted that several of the variables that we used in our study are likely best rated by the employees themselves. For example, because self-efficacy and job crafting fluctuate on a daily basis, they may be difficult or impossible to report by colleagues or supervisors (Daniels, 2006; Spector, 2006). However, self-reports may introduce common methodological variance. The following remedies are used to reduce the plausibility of method biases as an explanation of the relationships observed in our study: response bias is reduced because a diary study requires that employees report their behavior in close proximity to the actual experience (Bolger *et al.*, 2003; Podsakoff *et al.*, 2003). In addition, diary studies are usually shorter than single surveys to reduce dropout; only the highest loading items or items with the highest face validity are included, which may enhance comprehension of the items. Third, different response categories were used. These procedural remedies lower the risk of common method biases (Podsakoff *et al.*, 2003).

Alliger and Williams (1993) suggested that researchers could check indirectly for common methodological bias by examining the correlations among day-level variables.

Low correlations for at least some of these variables would indicate that participants are at least differentially responding to diary questionnaires. As shown in Table I, the within-person correlations among the study variables were not exceedingly high and ranged between 0.40 ($p < 0.001$) and 0.14 ($p < 0.05$). In addition, the two-level measurement CFA indicated that a single factor could not account for all of the variance in the data and that the five-factor measurement model showed the best fit. These results indicate that common method bias cannot account fully for the relationships observed in the current study.

A second limitation of the study is that we cannot make causal inferences from the correlational study results. Although the data from the present study support the presumed model, several other models are possible (Stone-Romero and Rosopa, 2010). The SEM results cannot be used to assume that the causal ordering in our model is the correct one. At this early stage of theorizing about the relationship between job crafting and its correlates, we feel that demonstrating the strength of the interrelationships between these variables among real employees, together with a careful discussion of potential explanations for these relationships, is a useful contribution. Nevertheless, future research could use a quasi-experimental design in which an experimental group receiving training to increase self-efficacy (see Demerouti *et al.*, 2011) is compared with a control group regarding the use of job crafting behaviors, work enjoyment, and job performance.

Furthermore, some scales exhibited relatively low reliabilities on some days, although the mean reliability scores were all above 0.70. It is not uncommon to find lower reliabilities at the day level (i.e. Xanthopoulou *et al.*, 2009). This lower reliability is likely due to the low number of items used at the day level or to the fact that not all self-efficacy beliefs and job crafting behaviors included in the scale were experienced on each specific day, which may result in a lower inter-item correlation and thus Cronbach's α values. Unreported analyses indicated that the items of the respective day-level scales generally correlated higher with each other than with items of other scales. In addition, two-level CFAs supported the validity of the scales.

Finally, we focussed on mobilizing job resources. However, as suggested by Wrzesniewski and Dutton (2001) and Tims and Bakker (2010), there are more job characteristics that could be crafted by an employee. For example, Tims *et al.* (2012) found two clusters of job resources, namely, social job resources (e.g. feedback, social support) and structural job resources (e.g. autonomy, variety). Moreover, job demands can also be crafted (i.e. increased or decreased). Future research should examine the antecedents and consequences of these proactive behaviors and include all crafting behaviors of employees to understand their full impact on employees, coworkers, and organizational outcomes.

Future research could also focus on moderators of the relationship between self-efficacy and performance, as well as between self-efficacy and job crafting. With regard to the self-efficacy-performance relationship, several moderators have already been suggested, such as task complexity (Stajkovic and Luthans, 1998) and performance ambiguity (Schmidt and DeShon, 2010). Interestingly, moderators that could influence the relationship between self-efficacy and proactive work behaviors could also be examined. A possible moderator in this respect is the felt responsibility for constructive change (Fuller *et al.*, 2006). Employees who feel that they are capable of executing the desired behaviors and to impact their environment successfully do not necessarily feel responsible for actually changing certain situations at work. Fuller *et al.* (2006) argued that felt responsibility for constructive change involves a conscious acceptance of

an obligation to engage in proactive behavior. Thus, individuals who feel capable of controlling their work environment (self-efficacious) and who feel responsible for making changes (felt responsibility for constructive change) may be most likely to engage in job crafting.

Conclusion

In conclusion, we feel that this study is an important first step in empirical research that examines the job crafting behaviors of employees. The relationship between day-level self-efficacy to day-level job performance could be explained (at least partially) by employee job crafting and work enjoyment. With this study, we hope to encourage further research on the promising concept of job crafting, which may benefit both the individual employee and organization.

Note

1. The present study was conducted before the validation study of Tims *et al.* (2012) was published.

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Further reading

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