

## The crossover of job crafting between coworkers and its relationship with adaptivity

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## The crossover of job crafting between coworkers and its relationship with adaptivity

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This daily diary study among 55 dyads of co-workers working within the same unit examined the crossover of *expansive job crafting* which, framed within the *Job-Demands Resources Model*, consists of two distinct behaviours: *seeking challenges* and *seeking resources*. We hypothesized that seeking resources and seeking challenges are transferred from one employee (actor) to the other (partner) on a daily basis and that there is more crossover of job crafting from actor to partner when the partner is high in empathy. Moreover, job crafting was expected to relate positively to daily adaptation to changes as measured both by self-reports and peer-reports. Multilevel analyses confirmed the crossover of seeking challenges and partly confirmed the crossover of seeking resources. Empathy of the partner acts as a moderator in this latter crossover process: there is more crossover of seeking resources from actor to partner when the partner is high in empathy. Moreover, day-level seeking resources and seeking challenges were both positively related to self-rated day-level adaptivity. Day-level seeking resources was also positively related to other-rated day-level adaptivity. These results imply that stimulating job crafting within organizations is valuable because it spreads around and can help in the adaptivity to changes.

**Keywords:** adaptivity; crossover; diary study; empathy; job crafting

In today's organizations, the need for employees to be proactive is increasing rapidly (Parker, Williams, & Turner, 2006). Organizations want employees who are flexible, self-initiating and self-regulating (Belschak & Den Hartog, 2010). A promising example of self-regulating work behaviour is *job crafting*. Recently, Petrou, Demerouti, and Schaufeli (2015) conceptualized job crafting as regulating one's job demands and resources in order to create a working situation which matches better with one's preferences. Research has shown that both situational workplace factors as well as individual characteristics of employees can encourage job crafting behaviour. In a recent review Demerouti (2014) concludes in this respect "that job crafting occurs in demanding, resourceful and changing work environments by employees who are proactive, motivated by growth, or who experience misfit between their motivational style and the environmental cues" (Demerouti, 2014, p. 241).

Currently, knowledge about the inter-individual predictors of proactive work behaviour like job crafting is scarce. For instance, can job crafting behaviour also be learned from or stimulated by colleagues? And are there factors that facilitate this so-called *crossover* of job crafting between colleagues? It is these types of questions that have not often been addressed yet, and that form the main

purpose of the present study. Our goal is threefold: first, we examine to what extent job crafting behaviour can be transferred on a daily basis between two co-workers who work closely together. Second, we examine a condition that might facilitate this transference: empathy of the receiver. The third goal is to examine the relationship between job crafting behaviour and the degree to which employees adapt to changes daily within their work unit. Since earlier studies have demonstrated that job crafting behaviour can display substantial intra-individual variation over time (Tims, Bakker, & Derks, 2014) we use a diary study in order to address our research questions. In addition, in order to calculate both intra-individual effects (actor effects) and inter-individual effects (partner effects), we use the actor-partner interdependence model to guide our analytic tests (Kenny & Cook, 1999).

The present study contributes to our knowledge about the predictors of job crafting in that it reveals to what extent colleagues can play a role in inciting job crafting. Theoretically, the study adds to the knowledge about crossover in that it focuses on the crossover of *behaviour*. Most previous research on crossover has focused on the crossover of positive or negative psychological *states* between individuals, for example job burnout (Westman & Bakker, 2008) and work engagement (Bakker, Van

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Emmerik, & Euwema, 2006). There is less work on how proactive behaviours can be transferred from one person to another. Knowing to what extent such processes take place in work situations and which factors can facilitate them, can be advantageous for organizations in a way that it can help them to deal with organizational changes. In addition, focusing on the extent to which job crafting is related to adaptive performance on a daily basis enhances our knowledge about the relationship between job crafting and performance. Although some studies have already demonstrated that job crafting is predictive of in-role performance on a daily basis (Bakker, Tims, & Derks, 2012) and of task performance 1 year later (Petrou et al., 2015), little is known about the role of job crafting in relation to adaptive performance.

### *Job crafting as a bottom-up tool for job redesign*

Currently, organizations recognize that more bottom-up redesign approaches (i.e., approaches initiated by the jobholders themselves) should be promoted and can be combined with top-down approaches (Demerouti, 2014). There are several aspects that make job crafting a promising tool for bottom-up job redesign. First of all, employees can use job crafting to cope with minor challenges and changes at work. Another central characteristic of job crafting is that employees alter their job characteristics on their own initiative, without consulting their supervisors. Thirdly, job crafting can have a short-term focus (e.g., as I'm so busy this week, I will ask my supervisor for some extra guidance or help) (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). Lastly, job crafting seems to have positive effects on both general level work engagement (Tims, Bakker, & Derks, 2012) as well as on day-level work engagement (Petrou et al., 2012).

Some scholars (Tims & Bakker, 2010; Tims et al., 2012) have incorporated job crafting within the theoretical framework of the Job Demands-Resources model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The JD-R model assumes that whereas every occupation may have its own specific work characteristics, these characteristics can be classified in two general categories (i.e., job demands and job resources). Thus, from a JD-R perspective, job crafting actually implies that individuals craft their job demands and resources in an attempt to make them fit their own preferences.

In order to study job crafting with a daily diary methodology, Petrou et al. (2012) put forward a conceptualization of job crafting (based on the JD-R model) that consists of three distinct behaviours: *seeking resources*, *seeking challenges*, and *reducing demands*. Reducing job resources has not been proposed because it does not seem to be a goal-directed behaviour of workers. Seeking resources (e.g., feedback, advice, autonomy) can be a form of coping with high job demands or can aid in

achieving goals and completing tasks. Seeking challenges may include behaviours such as seeking new challenging tasks at work or keeping busy during one's working day. The job crafting strategy of reducing demands can include behaviours targeted at minimizing the emotionally, mentally or physically demanding aspects of one's work or reducing one's workload. In this study we particularly focus on expansive job crafting, which according to Wrzesniewski and Dutton (2001, p. 185) allows "for the expression of self-determination and competence in their work" and involves expansion of the task or relational environment of the job. Specifically, we focus on seeking challenges and seeking resources as two forms of expansive job crafting that are known to have positive effects on work engagement (Petrou et al., 2012) and on task performance as rated by others (Bakker et al., 2012; Tims et al., 2012).

### *Crossover of job crafting*

A premise of the present study is that daily job crafting can be transferred between two colleagues who can observe each other and work closely together. This idea aligns with research on crossover, which is generally referred to as the process that occurs when the psychological well-being experienced by one person affects the level of well-being of another person (Westman, 2001). In this respect, crossover is a dyadic, inter-individual transmission of well-being between closely related individuals that occurs within a particular domain (e.g., workplace or family). As stated earlier, previous studies have predominantly examined crossover of states and experiences (both negative and positive) and less attention has been paid to the crossover of behaviour in organizations. However, some notable exceptions do exist. Although none of them uses the term crossover in this respect, they do focus on similar inter-individual processes that affect individual behaviour in organizations. For instance, in two field studies Zhou (2003) examined the role of the presence of creative co-workers on employees' creativity and Felps et al. (2009) focused on the contagiousness of voluntary turnover. Eder and Eisenberger (2008) demonstrated in this respect that withdrawal behaviour at the group level (e.g., undeserved work breaks or engaging in idle conversations) influenced the probability that individuals do the same. Brett and Stroh (2003) demonstrated that also working long hours seems something that can be transferred from one individual to another. All these studies provide support for the notion that co-worker's behaviours play an undeniable role in employees' behaviours which basically underlines our premise of the crossover of job crafting behaviour at work.

According to Bakker, Westman, and van Emmerik (2009) crossover of states and experiences is suggested

to occur either through an unconscious process of emotional contagion that individuals automatically mimic emotional expressions of others or through a conscious process by “tuning in” to the emotions of others. We argue that the main explanation that warrants the prediction of crossover of job crafting stems from the social learning theory (Bandura, 1977). Social learning theory suggests that learning takes place in a social setting and focuses on people learning from one another through imitation, observation and modelling behaviour. According to Bandura (1997) two of the mechanisms that stimulate learning are vicarious experience (i.e., learning from observing other people) and verbal persuasion (i.e., verbal encouragement by other people). Vicarious experience means that belief in one’s capabilities can be acquired by the observation of relevant others, where other people act as models for one’s own expectations (Neff, Sonnentag, Niessen, & Unger, 2012). In addition, significant others can also affect a person’s job-related beliefs and behaviour via verbal persuasion, for instance by expressing their trust in this person’s capabilities. Bandura (1977) also argues, that people only imitate or model the behaviours of others if they expect positive outcomes by executing these behaviours. “By observing the consequences of model’s behavior, an observer is likely to gain information that will help to form outcome expectancies” (Manz & Sims, 1981, p. 106). Since expansive job crafting, in the form of seeking challenges and resources, allows for the expression of self-determination (control) and competence in the work, we argue that it represents positive behaviour from which other colleagues can learn.

That these general learning principles also apply to the work context is explained by Eraut, Alderton, Cole, and Senker (2000). In their framework of the development of knowledge and skills at work, they classify learning from other people at work as a key process. Most informal learning (in contrast to formal learning or training) takes place through learning from other people or by learning from experience (Eraut, 2004). For example, feedback seeking behaviour (i.e., a form of seeking resources), which helps individuals to meet their goals and regulate their behaviour (Ashford, 1986), has been found to be learned by observing others (Ashford, Blatt, & VandeWalle, 2003). Individuals monitor their own behaviour, observe others and compare themselves to others. By observing their colleagues on the job, employees are presumed to learn which work behaviours are appropriate and appreciated. Thus, employees are more likely to engage in job crafting behaviours when they observe colleagues crafting their jobs, particularly when they perceive these colleagues as similar to themselves (e.g., when having similar work assignments). The latter refers to people’s pervasive tendency to compare themselves to others (Festinger, 1954). Chartrand and Bargh (1999) stated in this respect: “throughout the history of psychology

many have argued that the act of perceiving another person’s behavior creates a tendency to behave similarly oneself” (p.813). Also Felps and colleagues (2009) grounded their hypotheses about the contagion of turnover on social comparison theory. They hypothesized and found that co-workers’ job embeddedness and job search behaviours were related to turnover of employees because employees look to others in evaluating whether quitting the job is a viable option at any given point in time. Taken together, on the basis of Bandura’s social learning theory as well as Festinger’s social comparison theory we expect that there will be crossover from expansive job crafting behaviour between colleagues who work closely.

Although the learning effect from the crossover of job crafting among colleagues can be lasting, examining it on a daily basis has the advantage that it will be closer to the actual situation. Yet, we assume that vicarious learning can take place both at specific points in time as well as more general. For instance, noticing that the supervisor provides a colleague with guidance after the colleague’s request for extra support, could be an example of crossover of seeking resources at a specific point in time, if it incites the colleague to ask for support as well. Based on these arguments, we hypothesize:

*Hypothesis 1a:* Actor’s day-level seeking resources is positively related to partner’s day-level seeking resources.

*Hypothesis 1b:* Actor’s day-level seeking challenges is positively related to partner’s day-level seeking challenges.

### ***The role of empathy in the crossover of job crafting***

Being incited to copy or imitate the behaviour of a colleague with whom one works closely together requires that one pays attention to and is receptive for changes in the day-to-day work behaviours of their co-workers. As the root meaning of empathy is “feeling into,” empathy is often suggested to be a moderator of the crossover process (Bakker et al., 2009; Westman & Vinokur, 1998). Empathy is defined as “the notion of responsivity to the experiences of another” (Davis, 1980, p. 3). It consists of a non-emotional component, *perspective taking*, which is defined as “the spontaneous tendency of a person to adopt the psychological perspective of other people” (Davis, 1980) and of an emotional component, *empathic concern*, which refers to “an individual’s tendency to experience feelings of warmth, compassion, and concern for others” (Davis, 1983, p 169). It taps a person’s emotional responsivity and is related to sensitivity to others (Davis, 1983). Hence, empathic concern is the aspect of empathy that refers to the degree to which people feel themselves into another person (Neff et al., 2012). Argued from a social perspective point of view (Bandura, 1969) “individuals imagine how they would feel in the position of another—empathic identification—and thus come to

experience and share the other's feelings" (Bakker et al., 2009; p. 211). As mentioned above, individuals particularly model behaviours of others that have led to positive outcomes (Manz & Sims, 1981). In order to come to such evaluations, affective reactions of the models are observed by the receivers which is why empathic concern helps the crossover process. A direct empathic reaction to one's partner's day-specific job crafting should particularly occur if people are sensitive to changes in affective states of their partners; that is, when they are high in empathic concern.

In line with these arguments, Neff et al. (2012) demonstrated that day-specific self-esteem was predominantly transmitted when the partner had a generally *high* level of empathic concern. Thus, day-specific changes in self-esteem seemed to be particularly contagious for the partner if the partner was sensitive to these changes. In a related vein, Scott, Colquitt, Paddock, and Judge (2010) found that groups of employees with empathic managers experienced lower average levels of somatic complaints, most probably due to the fact that empathic managers engage in more social support. However, previous studies examined crossover of states and experiences (both negative and positive) and none were about the crossover of behaviour. We speculate in the present study that being incited to copy or imitate the job crafting behaviour of a colleague with whom one works closely together requires a certain attention for and sensitivity to changes in the day-to-day work behaviours of their co-workers, a process that Westman and colleagues refer to as empathic identification (Westman, Brough, & Kalliath, 2009). In the present study we focus particularly on the moderating role of empathic concern rather than perspective taking because we assume that being encouraged by behaviour of a colleague requires first and most a tendency to concern and being sensitive for others. On the basis of this literature we formulate our second hypothesis:

*Hypothesis 2:* The partner's general level of empathic concern moderates the crossover of day-specific job crafting behaviour such that the crossover of seeking resources (2a) and seeking challenges (2b) from actor to partner will be stronger when the partner is high in empathic concern.

### ***Job crafting and team member adaptivity***

As we study the crossover of job crafting between employees working within the same work unit, we particularly focus on how job crafting helps employees adapting to changes that affect their unit and the way their unit operates. Therefore, we study the relationship between job crafting and *team member adaptivity*. "Team member adaptivity reflects the degree to which individuals cope with, respond to, and/or support changes that affect their roles as members of a team" (Griffin, Neal, & Parker,

2007, pp. 331). As such, team member adaptivity reflects the level of flexibility and proactivity related to change and is an indicator of *performance* during times of change. Team member adaptivity is very closely related to what Dewett and Denisi (2007) call change-related Organization Citizenship Behaviour (OCB) which is a specific type of extra-role behaviour that is future-oriented and improvement-related. On a daily level, team member adaptivity takes the form of dealing with very *small* incremental changes in the work environment or in the team-unit, such as changes in the physical workspace, coping with the absence of a colleague or an extra team meeting. Therefore, team member adaptivity is not only an effective measure to assess an individual's general flexibility and adaptability to changes but also to assess an individual's flexibility and adaptability to small changes that can happen every day. Specifically, seeking extra resources (e.g., support, feedback) can help employees to deal with team members leaving the team or joining the team, or with changes in the way the team operates. Seeking extra challenges (more tasks, more responsibilities) can help employees to deal with fluctuations in the amount of work a team is facing. In line with the arguments of Wrzesniewsky and Dutton (2001) job crafting will help employees to adjust their work to their preferences and to find meaning in their work, which is particularly important during times in which organizations must continuously adapt to new realities as a result of globalization, the increasing use of modern ICT and a changing workforce (Peeters, Taris, & De Jonge, 2014; Petrou, 2013). Therefore, we hypothesize:

*Hypothesis 3:* Actor's day-level seeking resources (3a) and seeking challenges (3b) are positively related to actor's day-level self-reported team member adaptivity.

### ***Self-rated and other-rated team member adaptivity***

When self-report questionnaires are used to collect data at the same time from the same participants, common method variance (CMV) may be of major concern (Chang, Witteloostuijn, & Eden, 2010). One way to overcome this phenomenon is to use different sources of information. In this study we used both self-reported team member adaptivity and other-reported team member adaptivity. Moreover, for reports of work performance there are additional reasons to incorporate colleagues as another source of information. Peer appraisals of work performance are suggested to be a more valid measure of work performance than self-appraisals because they are object to fewer biases (Ehrlinger & Dunning, 2003; Thornton, 1980; Viswesvaran, Ones, & Schmidt, 1996). So, to increase the objectivity of the results regarding the relation between job crafting and team member adaptivity, both

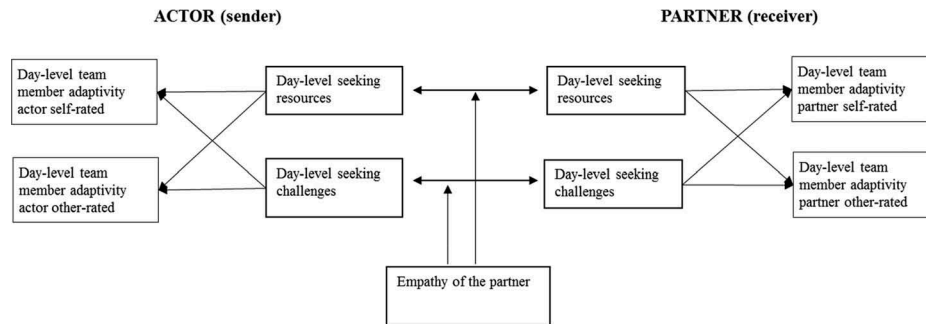


Figure 1. Research model.

self-reported and other-reported team member adaptivity are used. We expect seeking resources and seeking challenges to be similarly related to other-ratings as to self-ratings of adaptivity. We hypothesize:

*Hypothesis 4:* Actor's day-level seeking resources (4a) and seeking challenges (4b) are positively related to partner's ratings of actor's team member adaptivity.

Figure 1 shows all the hypothesized relationships.

## Method

### *Procedure and participants*

In order to collect data close to real work processes and natural events, we followed the advice of Bolger, Davis, and Rafaeli (2003) and used a diary methodology, which uncovers intra-individual processes. We selected a 3-day longitudinal design (Avey, Luthans, & Mhatre, 2008; Ployhart & Vandenberg, 2010). Diary methods have several advantages; (1) the reduction of retrospective bias, (2) the researcher can control for the situational context and (3) the possibility to examine how states change over time and how states and behaviours translate into other states and behaviours within short periods of time (Ohly, Sonnentag, Niessen, & Zapf, 2010). This methodology allowed us to examine the effect of the daily job crafting behaviours of an employee (the actor) on the daily job crafting behaviours of his/her colleague (the partner), controlling for the individual tendency of job crafting of the partner and some demographic variables. In this way, we can study the unique effect of the day-level actor variables on the day-level partner variables.

We approached 101 participants working in a wide range of different sectors and organizations who, in their turn, approached a colleague. The participants were either acquaintances of the researchers or approached by the researchers at their working place. Generally, we invited

only one or two couples per organization in order to avoid too much noise about the study which could in principle affect the behaviour of the employees under study. The 101 employees were asked to participate in the study simultaneously with a team/unit member with whom they worked closely together on a daily basis. This meant that the members of the dyad had to work in the same physical work space and had to have work-related contact with one another at least three times a day. These criteria were discussed with (potential) participants verbally and all participants gave verbal confirmation they could find a team/unit member that would fit these criteria. Ultimately, 55 dyads (response rate: 54.5%) completed the study. The dyads who participated in the study completed the entire questionnaire and there were no missing values. As for the non-respondents (45.5%), they either did not send their booklets back to the researcher or only one member of the dyad sent back the booklets.

Data were collected using a booklet consisting of a general questionnaire and a diary survey. The latter consisted of three identical daily measurements. Demographics were part of the general questionnaire. The general questionnaire could be filled out at any time during the study. The three daily measurements had to be filled out at the end of each workday by both members of the dyad. We instructed the participants to try to use consecutive workdays for the diary study. Due to a large percentage of the participants working part-time, and the fact that the dyad had to fill out the diary study on the same days, gaps of several days between the studied workdays exist. When both members of the dyad completed the general questionnaire and the diary survey, they were requested to send the booklet back to the researcher in separate pre-stamped envelopes. All participants received a voucher of €10 for their willingness to participate in the study.

Data from 55 dyads of colleagues ( $N = 110$  participants,  $N = 330$  days) were used to test the hypotheses. The

sample consisted of 66 women (60%) and 44 men (40%), with a mean age of 40 years ( $SD = 12.3$ ). The average organizational tenure was 10 years ( $SD = 9.3$ ) and the average contract hours were 33 hours a week ( $SD = 8.7$ ). The most common sectors that participants worked in were; healthcare (33%), education (18%), business services (15%), and trade (9%). 65% of the sample finished higher education. Of the participants, 87 (79%) indicated that they experienced changes in their work recently. On average, these 87 participants experienced 3.09 changes during the last few months, amongst others; working with new tasks (68%), technology (52%), products (28%) or colleagues (43%). This means that the majority of the sample is working in a changing and dynamic organization and that day-level adaptivity is an important concept to study within this sample.

## Measures

### General questionnaire

*General-level job crafting.* In order to measure the general-level of job crafting we used seven items of the scale of Petrou et al. (2012). The items were selected because they had the highest factor loadings on the expansive dimensions of job crafting. Respondents indicated how often they conducted each behaviour during the past three months using a scale ranging from 1 = never to 5 = often. *Seeking challenges* consists of three items (Cronbach's  $\alpha = .78$ ), such as "I ask for more tasks if I finish my work". *Seeking resources* included four items (Cronbach's  $\alpha = .61$ ), an example item is: "I ask others for feedback on my job performance".

*General-level team member adaptivity.* We used the team member adaptivity scale, developed and tested by Griffin et al. (2007). The measure includes three items (Cronbach's  $\alpha = .54$ ), such as "Ideal effectively with changes affecting my work unit (e.g., new members)". Respondents had to indicate the degree to which they agreed to each of the items on a scale ranging from 1 = totally disagree to 5 = totally agree.

*General-level empathy.* Empathy was assessed using a scale from the Interpersonal Reactivity Index (Davis, 1980). The empathic concern scale consists of seven items such as "I would describe myself as a rather sensitive person". Participants responded using a five-point scale ranging from (1) "totally disagree" to (5) "totally agree". Earlier studies have shown that the internal reliabilities of these scales range from .71 to .77, and test-retest reliabilities from .62 to .71 (Davis, 1980). In our study the reliability was  $\alpha = .77$ .

### Diary survey

*Day-level job crafting.* Exactly the same items were used to measure the day-level job crafting as the general-level job crafting. The participants had to indicate to what degree the items applied to their situation on that workday (1 = totally applies to me, to 5 = totally does not apply to me). *Day-level seeking challenges* consists of three items (Cronbach's  $\alpha = .84$ ), such as "Today ... I have asked for more tasks when I finished my work". *Day-level seeking resources* included four items (Cronbach's  $\alpha = .62$ ), a sample item is "Today ... I have asked others for feedback on my job performance". Items were recoded in such a way that high scores indicate high levels of job crafting.

*Day-level team member adaptivity self-rated/ other-rated.* Exactly the same items were used for this measure as for the general-level team member adaptivity measure (Griffin et al., 2007). The items were phrased in such a way that participants indicated how well the items applied to their situation on that workday on a scale ranging from 1 = totally applies to me to 5 = not applies to me at all (Cronbach's  $\alpha = .82$ ). An example item is "Today ... I dealt effectively with changes affecting my work unit (e.g., new members)". The items of the peer-rated scale were for example "Today, my colleague ... dealt effectively with changes affecting his/her work unit (e.g., new members)". Participants indicated how well the items applied to their colleagues on that workday on a scale ranging from 1 = totally applies to me to 5 = not applies to me at all (Cronbach's  $\alpha = .80$ ). Items were recoded in such a way that high scores indicate high levels of team member adaptivity.

*Strategy of analysis.* The main hypothesis of this study is that job crafting behaviour can crossover between two colleagues (from actor to partner) who work closely together within the same work unit. Data that are collected in dyad studies are nonindependent (Hox, 2010), in this case because both members of the dyad are exposed to the same work environment, which is unique and different from the work environments of all the other dyads. To study non-independent data, we used the actor-partner interdependence model (APIM; Kenny & Cook, 1999). APIM divides data collected from dyads in multiple levels. The dyads are the highest level (level 3, between-dyad,  $N = 55$ ), then the individuals nested within this dyad (level 2, between-person,  $N = 110$ ), and three repeated measurements (days) nested within the individuals (level 1, within-person,  $N = 330$ ). With this method of analysis, *partner effects* can be calculated: how a person's independent variable affects his/her partner's dependent variable (Campbell & Kashy, 2002). In this case, we are interested in the unique effect of the day-level seeking resources and seeking challenges of the actor on the day-level seeking resources and seeking challenges of the partner, controlled



for the general-level job crafting of the partner. Because both members of the dyad affect one another simultaneously, the partner effects in APIM are reciprocal (Bakker & Xanthopoulou, 2009). This means that the two co-workers of the 55 dyads are both actor and partner simultaneously. In total, there were 110 partners and 110 actors in our sample. Following common practices, we present the analysis of the crossover process from actor (sender) to partner (receiver). However, in fact it does not matter which direction (partner—actor or actor—partner) is analyzed. The results are the same because all employees in the sample are both actor and partner simultaneously.

The MLwiN programme (Rasbash, Browne, Healy, Cameron, & Charlton, 2000) was used to test the hypotheses. Day-level variables (see above) were job crafting and self-rated and other-rated team member adaptivity. General-level variables were job crafting, team member adaptivity and empathy. We measured no variables on the dyad level. Preliminary analysis showed that the dyad level (level 3) was not significant for other-rated adaptivity ( $\Delta\chi^2$  (1 df) = 3.10, n.s.) nor for seeking resources ( $\Delta\chi^2$  (1 df) = .84, n.s.) but it was for self-rated adaptivity ( $\Delta\chi^2$  (1 df) = 10.53,  $p < .001$ ) and for seeking challenges ( $\Delta\chi^2$  (1 df) = 9.53,  $p < .001$ ). As we cannot explain variance on level 3 and because the results remained the same even when considering only two levels, we only used level 1 and 2 in our analyses.

Predictor variables in multilevel analyses should be centred to get unbiased results (Bakker & Xanthopoulou, 2009). Similar to suggested practices (Enders & Tofighi, 2007; Ohly et al., 2010), all day-level variables are centred around the person-mean (level 2) and all general-level variables are centred around the grand mean.

*Control variables.* When testing our hypotheses we included organizational tenure, age and gender as control variables because we theorized that these variables might be related to the dependent variable in our study, adaptive performance. Tenure was included on the basis of human

capital theory (Becker, 1964) which proposes that certain individual characteristics such as tenure, positively affect job behaviours (such as adaptive performance) due to the continuous improvement of critical abilities. In a related vein, age may play a role in job performance. Based on a meta-analysis, Sturman (2003) suggested that because of the relationship between temporal variables (age and tenure) and performance, it is important to consider them when predicting performance. Furthermore, gender was included as a control variable because a recent meta-analysis by Roth, Purvis, and Bobko (2012) showed that females scored slightly higher than males on job performance measures. Finally, we controlled for the effect of general-level variables to the respective day-level variables that were treated as outcomes because this enabled us to examine relationships between day-level fluctuations after taking into account individual baselines.

**Results**

Table 1 presents the mean scores, standard deviations, and correlations among the study variables. Organizational tenure is significantly and negatively related to general-level seeking resources and general-level seeking challenges, meaning that newcomers seek more resources and challenges than people who have been working at the organization for a longer time. The general level job crafting dimensions are significantly and positively related to the respective day-level job crafting dimensions. The day-level team member adaptivity measures (self-rated and other-rated) are positively correlated. The general-level team member adaptivity measure is only significantly correlated with the self-rated day-level team member adaptivity.

Before testing our hypotheses, we examined the between-person and within-person variance components of all daily variables used in the analyses. The intra-class correlation coefficients (ICC) for daily seeking resources and seeking challenges were  $\rho = .53$  and  $\rho = .63$  meaning

Table 1. Means, standard deviations and correlations among study variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1.Age	40.33	12.25	-										
2.Sex	-	-	-.16**	-									
3.Organizational tenure	10.08	9.30	.64**	-.27**									
4.General-level seeking resources	3.60	0.53	-.18**	.08	-.26**	-							
5.General-level seeking challenges	2.99	0.91	-.26**	-.07	-.25**	.31**	-						
6.General-level TM adaptivity	3.92	0.49	.02	.16**	-.10	.09	.17**	-					
7.General-level empathy	3.87	0.50	-.01	.30**	.02	.10	-.00	.22**	-				
8.Day-level seeking resources	2.90	0.63	-.10	-.08	-.16**	.48***	.24**	.07	.05	-			
9.Day-level seeking challenges	2.18	0.80	-.04	-.03	-.10	.16**	.37**	-.07	-.12*	.26**	-		
10.Day-level TM adaptivity SR	3.16	0.83	.10	-.14*	.08	-.03	-.00	.12*	.03	.47**	.36**	-	
11.Day-level TM adaptivity OR	3.14	0.84	.04	-.03	.04	-.10	-.14*	.03	.15**	.07	.10	.34**	-

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  (2-tailed). Day-level scores are averaged across 3 days. SR = self-rated, OR = other-rated. TM = team member.

that 53% and 63% of the answers in questions about daily job crafting could be explained by between-person variations. For team member adaptivity (self-rated and other-rated) the ICCs were  $\rho = .63$  and  $\rho = .56$  meaning that 63% and 56% of the answers in questions about daily adaptivity could be explained by between-person variation. These findings endorse the multilevel structure of our data as sufficient variance could be explained by both the between- and the within-person levels.

To test the direct crossover of day-level seeking resources and day-level seeking challenges from actor to partner (hypothesis 1) and the role of empathy of the

partner in this process (hypothesis 2), we examined four different models: (0) the intercept/null model, (1) the model that includes the control variables of the partner (general-level seeking resources and seeking challenges, age, gender and organizational tenure), (2) the model in which we added the predictor variables (day-level seeking resources actor and seeking challenges actor and general-level empathy partner) and (3) the model in which the interaction term was added (day-level seeking resources/seeking challenges actor  $\times$  general-level empathy partner). The results are presented in Tables 2 and 3. Note that Model 2 includes the two day-level job crafting

Table 2. Multi-level estimates for models predicting day-level seeking resources partner,  $N = 110$  participants and  $N = 330$  data points.

	Model 1			Model 2			Model 3		
	Estimate	SE	Sign	Estimate	SE	Sign	Estimate	SE	Sign
Constant	3.042	0.091	***	3.031	0.092	***	3.035	0.089	***
Age	0.001	0.006		0.001	0.006		0.002	0.005	
Sex	-0.221	0.120		-0.207	0.122		-0.224	0.117	
Organizational tenure	-0.005	0.008		-0.004	0.008		-0.005	0.008	
General-level of seeking resources partner	0.541	0.105	***	0.541	0.105	***	0.549	0.101	***
Day-level of seeking resources actor				0.055	0.058		0.013	0.059	
Day-level of seeking challenges actor				0.022	0.052		0.045	0.051	
General-level of empathy partner				0.049	0.116		0.062	0.111	
General-level of empathy partner x day-level of seeking resources actor							0.348	0.121	**
-2*log (lh)		627.340			619.461			611.522	
Diff-2*log		50.943	***		7.879	**		7.939	**
Df		4			3			1	
Between person (Level 2) variance	0.197	0.043		0.191	0.043		0.170	0.040	
Within person (Level 1) variance	0.305	0.030		0.312	0.031		0.312	0.031	

Note: \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Model 1 was compared to a Null Model with the intercept as the only predictor ( $\gamma = 2.902$ ; SE = 0.060;  $t = 48.367$ ;  $-2*\log = 678.283$ ; Level 1 Variance = 0.299; SE = 0.029; Level 2 Variance = 0.290; SE = 0.054).

Table 3. Multi-level estimates for models predicting day-level seeking challenges partner,  $N = 110$  participants and  $N = 330$  data points.

	Model 1			Model 2			Model 3		
	Estimate	SE	Sign	Estimate	SE	Sign	Estimate	SE	Sign
Constant	2.159	0.121	***	2.191	0.117	***	2.190	0.117	***
Age	0.005	0.007		0.004	0.007		0.004	0.007	
Sex	0.010	0.161		-0.035	0.156		-0.033	0.156	
Organizational tenure	-0.003	0.010		-0.003	0.010		-0.003	0.010	
General-level of seeking challenges partner	0.329	0.083	***	0.303	0.080	***	0.299	0.080	***
Day-level of seeking resources actor				-0.071	0.062		-0.071	0.062	
Day-level of seeking challenges actor				0.155	0.057	*	0.158	0.057	*
General-level of empathy partner				-0.132	0.153		-0.127	0.153	
General-level of empathy partner x day-level of seeking challenges actor							0.054	0.107	
-2*log (lh)		671.517			657.321			657.067	
Diff-2*log		64.161	***		14.196	**		-0.254	
Df		4			3			1	
Between person (Level 2) variance		0.429	0.074		0.374	0.067	0.374	0.067	
Within person (Level 1) variance		0.293	0.029		0.304	0.031	0.304	0.031	

Note: \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Model 1 was compared to a Null Model with the intercept as the only predictor ( $\gamma = 2.181$ ; SE = 0.076;  $t = 28.697$ ;  $-2*\log = 735.678$ ; Level 1 Variance = 0.300; SE = 0.029; Level 2 Variance = 0.531; SE = 0.086).

dimensions (seeking resources and seeking challenges), whereas Model 3 includes the interaction term of general-level empathy partner and only the job crafting dimension of the actor that matches the dependent measure (i.e., the job crafting dimension of the partner). Tables 2 and 3 present unstandardized estimates, standard errors, and significance values for all predictors of all four models, for seeking resources and seeking challenges, respectively.

First we look at the results of APIM analyses for our first hypothesis: the direct crossover of day-level job crafting from actor to partner. Results support the crossover of seeking challenges ( $t = 2.719$ ; Table 3, Model 2), but failed to support the crossover of seeking resources (no main effect;  $t = 0.948$ , ns, Table 2, Model 2). Thus, we can accept hypothesis 1b, but reject hypotheses 1a.

We then look at the results of APIM analyses for the role of empathy of the partner in the crossover process of day-level job crafting from actor to partner. The interaction term is significant for the day-level seeking resources variable ( $t = 2.876$ ; Table 2, Model 3), meaning that empathy of the partner moderates the crossover of day-level seeking resources from actor to partner. For day-level seeking challenges we did not find these results ( $t = 0.505$ , ns, Table 3, Model 3). We conducted simple slope analysis according to Preacher, Curran, and Bauer (2006) for the significant interaction on day-level seeking resources of the partner. We used values at 1 SD above and below the mean of empathy of the partner to assess the crossover of seeking resources from the actor to the partner in each situation. The graph (see Figure 2) shows that when the partner is high in

empathy (+1SD), the slope relating seeking resources of the actor to seeking resources of the partner is positive, whereas when the partner is low in empathy (−1SD), the slope relating seeking resources of the actor to seeking resources of the partner is negative. These results suggest that the crossover of seeking resources from the actor to the partner takes place *only* when the partner is high in empathy. Taken together, hypothesis 2a was confirmed, but hypotheses 2b had to be rejected.

To test the relationship between day-level seeking resources and seeking challenges on the one hand and day-level team member adaptivity self-rated (hypothesis 3) and day-level team member adaptivity other-rated (hypothesis 4) on the other hand, we examined the following models: (0) the intercept/null model, (1) the model containing the intercept and the control variables (age, gender, organizational tenure and general-level team member adaptivity) and (2) the model containing the intercept, the control variables and the predictor (day-level job crafting). Tables 4 and 5 present the estimates and significance values for two dependent variables; day-level team member adaptivity self-rated (Table 4) and day-level team member adaptivity other-rated (Table 5).

Results of the analyses show that day-level seeking resources and day-level seeking challenges are positively related to self-rated day-level team member adaptivity ( $t = 3.516$  and  $t = 3.375$ ; Table 4, Model 2). This supports hypotheses 3a and 3b. Moreover, we found a significant relationship between day-level seeking resources and day-level team member adaptivity other-rated ( $t = 2.306$ ; Table 5, Model 2), but not for seeking challenges ( $t = -0.742$ , ns; Table 5, Model 2). Thus, hypothesis 4a was supported, whereas hypotheses 4b had to be rejected.

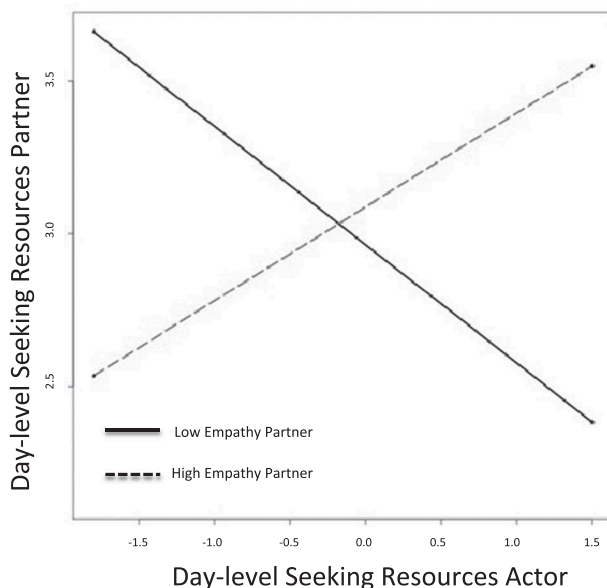


Figure 2. Interaction effect of general level empathy partner and day-level seeking resources of the actor on day-level seeking resources of the partner.

## Discussion

The goal of this study was threefold. The primary goal was to examine whether two expansive day-level job crafting behaviours (seeking resources and seeking challenges) can be transferred between two co-workers who work closely together within the same unit. Second, the role of empathy in this crossover process was examined and the third goal was to examine the relationship between day-level seeking resources and day-level seeking challenges and the degree to which employees adapt to changes within their work unit. We found crossover of day-level seeking challenges from actor to partner. We also found crossover of day-level seeking resources but only when the partner was high in empathy. In addition, we found that seeking resources and seeking challenges are positively related to self-rated team member adaptivity and that seeking resources is also positively related to other-rated team member adaptivity.

The finding that crossover of seeking challenges takes place is in line with theories and studies of social learning (Bandura, 1977) arguing that individuals can affect each

Table 4. Multi-level estimates for models predicting day-level team member adaptivity self-rated,  $N = 110$  participants and  $N = 330$  data points.

	Model 1			Model 2		
	Estimate	SE	Sign	Estimate	SE	Sign
Constant	2.638	0.123	***	2.683	0.108	***
Age	-0.005	0.008		-0.005	0.007	
Sex	-0.325	0.162	*	0.254	0.141	
Organizational tenure	0.002	0.011		-0.003	0.010	
General-level of team member adaptivity	-0.217	0.158		-0.229	0.138	
Day-level of seeking resources				0.218	0.062	***
Day-level of seeking challenges				0.189	0.056	***
$-2*\log$ (lh)		740.228			700.841	
Diff- $2*\log$		24.556	***		39.387	***
<i>Df</i>		4			2	
Between person (Level 2) variance	0.504	0.084		0.352	0.064	
Within person (Level 1) variance	0.328	0.032		0.330	0.032	

Note: \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Model 1 was compared to a Null Model with the intercept as the only predictor ( $\gamma = 2.845$ ; SE = 0.079;  $t = 36.013$ ;  $-2*\log = 764.784$ ; Level 1 Variance = 0.327; SE = 0.031; Level 2 Variance = 0.569; SE = 0.092).

Table 5. Multi-level estimates for models predicting day-level team member adaptivity other-rated,  $N = 110$  participants and  $N = 330$  data points.

	Model 1			Model 2		
	Estimate	SE	Sign	Estimate	SE	Sign
Constant	2.818	0.132	***	2.824	0.134	***
Age	-0.001	0.009		-0.001	0.009	
Sex	-0.061	0.170		0.040	0.176	
Organizational tenure	-0.001	0.012		-0.004	0.012	
General-level of team member adaptivity	0.061	0.173		-0.038	0.172	
Day-level of seeking resources				0.166	0.072	*
Day-level of seeking challenges				-0.049	0.066	
$-2*\log$ (lh)		813.269			798.665	
Diff- $2*\log$		15.151	**		14.604	**
<i>Df</i>		4			2	
Between person (Level 2) variance	0.562	0.097		0.577	0.099	
Within person (Level 1) variance	0.425	0.041		0.420	0.041	

Note: \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Model 1 was compared to a Null Model with the intercept as the only predictor ( $\gamma = 2.857$ ; SE = 0.080;  $t = 35.712$ ;  $-2*\log = 828.420$ ; Level 1 variance = 0.428; SE = 0.041; Level 2 variance = 0.555; SE = 0.095).

other's emotional states and behaviour. Especially since proactivity is a characteristic that becomes increasingly important for organizations (Parker et al., 2006), it is even more likely that co-workers observe and model (pro)active, self-steering behaviours because they are aware of the fact that this is highly expected and rewarded behaviour.

There is no direct crossover of seeking resources from actor to partner. Thus, observing a colleague who is asking for feedback, support, and developmental possibilities does not automatically mean that one will do the same. Apparently there are some obstacles that hinder individuals to adopt such behaviour. We uncovered one of them; namely the crossover of seeking resources from actor to partner only takes place when the partner is high

in empathic concern and not when he/she is low on this characteristic. Empathic concern is clearly an indicator of emotional responsivity and this may be the active psychological mechanism when it comes to the crossover of resources seeking behaviour. Perhaps resources seeking behaviour is to a large extent a social activity in which feelings of warmth, compassion and concern for others can be seen as facilitators of such behaviours. Thus, individuals seem to influence their colleagues' level of resources seeking behaviour particularly when they relate emotionally to them. Another possible explanation is that some of the behaviours of seeking resources; such as "seeking feedback" might be more difficult to observe than behaviours such as seeking extra tasks, the latter being an example of seeking challenges. So it requires a

lot of emphatic concern from the receiver for these behaviours to cross over.

We further found that empathy of the partner failed to moderate the crossover of seeking challenges from actor to partner. We speculate that seeking challenges (asking for extra tasks and responsibilities) is often more visible and noticeable in organizations. Many organizations foster cultures in which OCB and “going the extra mile” are promoted and rewarded (Bolino & Turnley, 2003). Also, in many organizations, seeking extra challenges is part of the culture and might therefore be “picked up” and “crossed over” from one colleague to the other more easily than seeking resources which is possibly a more social activity. Individuals do not need to be empathetic to their colleague to model the positive behaviour of taking on more work tasks. They will take over new tasks when they are ready with their own work. Additionally, modelling seeking challenges could also be driven by competitive motives which don’t require necessarily a high sensitivity of the colleague.

The expected relationships for seeking resources and seeking challenges on team member adaptivity self-rated and for seeking resources on team member adaptivity other-rated were supported in our study. These significant relationships are in line with studies arguing that job crafting allows employees to adapt to changes in work tasks (Petrou, 2013). The fact that seeking resources is positively related to team member adaptivity self-rated and other-rated strengthens the objectivity of this finding (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Particularly expansive job crafting helps individuals to adjust their (changing) work context according to their preferences and find meaning in the change (Petrou, 2013). In this way, they are more willing to adapt. Taken together, these findings suggest that job crafting—and in particular seeking resources—represents behaviour that contributes to successful implementation of change.

### ***Limitations, strengths, and avenues for future research***

A number of limitations must be mentioned. First, both our sample size as well as the number of days that was used in this diary study, were modest. This may have resulted in insufficient statistical power which may have restricted the significance of the analyses. Moreover, it could have led to a less reliable assessment of fluctuations in work behaviour or fluctuations in environmental factors.

Another limitation of this study was that the Cronbach’s  $\alpha$  for the general-level measure of team member adaptivity (.54) was lower than the reported value in the original studies with exact the same items (Griffin et al., 2007; Petrou et al., 2012). The large difference in reliability between the general-level and day-level team adaptivity scales might explain why general-level team member adaptivity and day-level team member adaptivity

are not significantly related in the tested models (see Table 4 and Table 5). As low reliability reflects high measurement error, the correlations may be flawed because they are affected by aspects other than those measured by the scale. It is advised using a different measure of general-level team member adaptivity in future studies. Despite the low Cronbach’s  $\alpha$ , we did use the general-level measure of team member adaptivity in this study because it only acted as a control variable.

Also, employees can craft different and very specific elements of their job and it is difficult to refer to all possible job crafting actions in a measurement instrument. Thus, more work is needed to expand existing ways of measuring job crafting in future research.

Another limitation is related to the data collection procedure. Although other daily studies have also used survey packages (e.g., Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli 2008), we are aware that hand-held computers provide certain advantages compared to paper-and-pencil diaries such as the verification of the exact time on which the survey was filled in. For the present study this means that we cannot guarantee that participants filled in the daily questionnaires after work and not all at once. However, because of the fact that we found systematic, within person variance we think that our participants did not fill in all the daily questionnaires at once. Moreover, to reduce the possible drawbacks from the use of paper and pencil diary we followed the suggestions of Bolger et al. (2003): we used portable booklets, we asked participants to note the date of completion (and confirmed that the dates overlapped between colleagues) and maintained ongoing contact with participants.

Another limitation of the present study is that participants chose the co-worker of the dyad themselves, which could have been a co-worker they liked or had a good relationship with. Social learning theory argues that people are especially likely to imitate or model behaviours executed by others if they like them or have good relationships with them (Bandura, 1977). In other words, the quality of the relationship could be a moderator in the crossover of job crafting such that the crossover is stronger for those with a high quality relationship. To exclude this alternative explanation, we measured general-level quality of the relationship using four items from the scale of Van Veldhoven & Meijman (1994). By testing quality of relationship between the partner and actor as moderator for the crossover of job crafting in additional analyses (as in M3), we did not find any significant moderation effects for any of the job crafting dimensions. This indicates that the crossover of job crafting can be generalized to working dyads within the same work unit, irrespectively from the degree of likability.

Finally, taken together the results are pretty consistent with the basic premise of social learning theory of

Bandura (1977) that people tend to exhibit the same type of behaviours that they observe others exhibiting. However, in order to be able to draw unequivocal conclusions about the explaining power of social learning processes, future scholars could consider to measure social learning processes explicitly.

A clear advantage of this diary study is that retrospective bias is reduced (Ohly et al., 2010) and that the daily fluctuations of the variables in this study can be examined in more detail. Also, the use of multiple measures of team member adaptivity (self-rated and peer-rated) contributes to the objectivity of the relationship between job crafting and team member adaptivity (Podsakoff et al., 2003).

It is important to note that future research should also focus on confirming the crossover of job crafting on a between-person level. According to Chen, Bliese, and Mathieu (2005), supporting the homology of the hypothesized crossover effect across levels of analysis adds to the parsimony and robustness of the underlying processes, because it assumes similarity across the levels of analysis. If homology cannot be confirmed, researchers need to think about how to refine the existing theories in such a way that they can explain how processes operate at each distinct level.

An important contribution of the present study is that it shows that job crafting (seeking challenges) can be transferred between co-workers working within the same unit and that empathy influences the crossover of seeking resources. By showing this the study adds to the current crossover literature in that it shows empirical evidence that crossover is not restricted to states and feelings but also applies to behaviours. Knowing that job crafting can be transmitted between colleagues underlines the relevance of investing in such behaviour in organizations. However, it is important to note that we must be modest with this statement since the empirical evidence it still in its infancy. More research is definitely needed to be able to draw more firm conclusions on this topic. In addition, this study indicates that social learning might underlie the crossover of proactive behaviour at work. While social learning theory has been used as an explaining theoretical framework in multiple empirical studies, such as interpersonal skills (Latham & Saari, 1979), creativity (Shalley, Zhou, & Oldham, 2004) and leadership (Brown, Treviño, & Harrison, 2005), it has not been used before as a theoretical framework to explain how proactive behaviour is learned in the workplace. However, it is also important for future studies to examine other possible ways in which co-workers can affect each other's behaviours. For instance, it would be relevant to know to what extent job crafting actions of an employee influence work characteristics of his/her colleague. For instance, if an employee decides to reduce certain demands this could mean that a colleague has to take over these demands.

### **Practical implications**

Our findings can have some implications for organizations that strive towards employees that perform well, especially in times of changes. First, organizations and supervisors could stimulate job crafting, and especially the behaviours "seeking resources" and "seeking challenges". Both behaviours seem to have beneficial effects on employees' team adaptivity, indicating that they help employees to react constructively on changes that directly concern the team. Moreover, seeking challenges spreads around among co-workers which also contributes to a stimulating work context. This means that empowering individuals to craft their job to make it fit their needs and preferences, can facilitate successful implementation of organizational changes and innovations. There are different options as for *how* to empower employees. Recently, Van den Heuvel, Demerouti, and Peeters (2015) found that a 1.5 day lasting job crafting training can be a promising way to do this. Also, stimulating empathic concern among colleagues will help to build an informal learning climate where individuals will feel safe to ask for feedback and/or experiment with new behaviour. To conclude, stimulating positive pro-active behaviour that in the same time spreads around (like job crafting), seems an efficient way to contribute to a productive workforce.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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