Antecedents of daily team job crafting

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**ABSTRACT**

This study investigated potential antecedents of team job crafting defined as the extent to which team members engage together in increasing (social and structural) job resources and challenges, and decreasing hindering job demands. Mindful of the teamwork literature, we hypothesized that individual employee factors (self-efficacy for teamwork, daily affect), team features (team cohesion, climate) and the organizational context of teams (engaging leadership and organizational resources for teamwork) relate positively to daily team job crafting behaviour. Data were collected among 46 multi-professional teams and 116 team members completed two daily surveys after their weekly meetings. Multilevel regression analyses showed that self-efficacy for teamwork and team members’ positive affect were positively associated with team job crafting behaviour at the individual (within-team) level. In addition, a team climate characterized by a clear vision of the teams’ targets, supportiveness and innovation and connecting leadership were positively related to daily team job crafting at both the within- and between-team levels of the data. Overall, the study offers novel insights into the antecedents of teams’ daily job crafting behaviours. For practice, the results suggest that actions and interventions conducive to positive team processes offer the most promising route to enhancing team job crafting behaviour.

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Job crafting—a process whereby employees self-initiate sculpting and altering their jobs and work experiences in personally meaningful ways (Wrzesniewski & Dutton, 2001)—has attracted increasing academic interest since it was introduced in the psychology literature in the early twenty-first century (for a review, see Wang, Demerouti, & Bakker, 2016). Job crafting has typically been studied as an individual-level activity, but increasing research interest has also recently been shown in job crafting at the team level (Leana, Appelbaum, & Shevchuk, 2009; McClelland, Leach, Clegg, & McGowan, 2014; Tims, Bakker, Derks, & van Rhenen, 2013). In today’s working life, teams are commonly used as a basic unit the accomplishment of work (Vaskova, 2007). Therefore, the study of team job crafting—proposed already by Wrzesniewski and Dutton in 2001—is highly warranted.

Team job crafting research has so far shown beneficial outcomes for team job satisfaction and commitment (Leana et al., 2009) as well as work engagement and performance (McClelland et al., 2014; Tims et al., 2013). Nevertheless, little is known about the antecedents of team job crafting, and the few studies conducted in team settings have been limited to investigating single job characteristics (e.g., job control, work discretion, supportive supervision), individual employees’ attitudes (e.g., work orientation) and team characteristics (e.g., team efficacy) (Leana et al., 2009; McClelland et al., 2014). Berg, Dutton, and Wrzesniewski (2013) recently called for a more comprehensive investigation of the individual, interpersonal, occupational and organizational correlates of job crafting. In response to this call, the present study investigates a broad spectrum of potential antecedents of team job crafting defined in the context of the Job Demands–Resources (JD-R) theory (Bakker & Demerouti, 2014) as proactive behaviour through which team members change their work environment by jointly shaping the team’s job resources and job demands (Tims et al., 2013). We focus specifically on the multilevel-nature of teamwork, including antecedents at the individual, team and organizational level of team job crafting known to contribute to successful teamwork (Salas, Shuffler, Thayer, Bedwell, & Lazzara, 2015; see also Kozlowski, 2015).

In addition to investigating the antecedents of team job crafting more comprehensively than has been the case hitherto, this study contributes in several other ways. First, team job crafting is studied at the day level among “real” teams, i.e., teams with shared objectives, structural interdependence and reflexivity (see Lyubovnikova, West, Dawson, & Carter, 2015). Second, the results have relevance for practitioners as they answer important questions on how team job crafting behaviour could be enhanced.

**Team job crafting: conceptualization**

Team job crafting, also known as collaborative job crafting (Leana et al., 2009), is defined as the extent to which team members engage jointly in shaping their job demands and resources (Tims et al., 2013). Job demands and resources can be modified in different ways at the team level, possibly by...
increasing structural (e.g., utilizing the capacity and know-how of every team member) and social job resources (e.g., requesting and providing feedback from and to other team members). Teams can also modify their job demands making these more challenging (e.g., adding to the responsibilities of the team) and decreasing hindering job demands (e.g., reducing the monotony of tasks or an emotionally burdensome atmosphere) (Tims et al., 2013; see also Tims, Bakker, & Derks, 2012).

Team job crafting is a collective process about what to craft at work and how in order to achieve shared goals (Leana et al., 2009). Team job crafting requires interaction between team members, but is more than simply discussing and setting the team’s daily work agenda. Team job crafting differs from other proactive behaviours in that it is specifically aimed at producing positive changes in psychosocial job characteristics (Bakker & Demerouti, 2014). Thus teams do not craft their job resources and job demands in a similar way each day. This changing of job characteristics is a bottom-up process, where employees themselves, not management, decide as a team which features of their job they would like to alter. Job crafting therefore affords a new perspective on the literature concerning proactive behaviours. Proactive behaviours including extra-role behaviour as in Morrison and Phelps (1999) or personal initiative as in Frese and Fay (2001) mostly concern tasks and roles where the aim is to support the organization to achieve its strategic or internal objectives. The purpose of job crafting, however, is to enhance employees’ well-being (Tims et al., 2013), and thus may not necessarily aid the organization to meet its objectives. However, because the goals set for the work are shared between team members, it is unlikely that team job crafting behaviour is at odds with organizational objectives.

Team job crafting is not simply the sum of the individual team members’ job crafting behaviours (Tims et al., 2013). Yet individual and collective job crafting are not mutually exclusive, and individuals may engage in both simultaneously (Leana et al., 2009; Tims et al., 2013). In their recent qualitative study, Mattarelli and Tagliaventi (2015) confirmed that the two forms of job crafting coexist and may serve different purposes. They found that individual crafting paves the way for collective crafting, suggesting complementarity and reporting that R&D (research and development) employees in an Italian software company initially developed new ideas and ways of working individually that were subsequently refined collectively. Quantitative research has also demonstrated a difference between individual and team job crafting (Tims et al., 2013). In contrast to Mattarelli and Tagliaventi (2015), data collected among Dutch occupational health service employees showed that job crafting behaviour at the team level inspired crafting by individual employees, and not the other way around (Tims et al., 2013). However, regardless of the direction of causality between individual and team job crafting (which partly depends on the work task), there is irrefutable evidence that team job crafting exists, and that it is more likely to occur among teams whose members’ jobs are interdependent (Leana et al., 2009; Mattarelli & Tagliaventi, 2015) (as in the present study context; see “Method” section).

Why is team job crafting important and why is it essential to investigate its antecedents? Following the JD-R theory (see Bakker & Demerouti, 2014; Tims et al., 2013), teams who actively craft their jobs and shape their work environment are seeking to acquire new job resources that will enable them to cope better with their job demands and achieve their shared objectives. Research has provided sound evidence of the benefits of team job crafting, relating not only to positive employee attitudes to work (such as job satisfaction, work commitment and lower turnover intentions; Leana et al., 2009) but also to improved team efficacy and interdependence (McClelland et al., 2014) and increased levels of work engagement and performance (Tims et al., 2013). There is also recent evidence that, in contrast to individual job crafting, shared job crafting among team members increased their team’s performance (Mäkikangas, Aunola, Seppälä, & Hakanen, 2016). Thus research has shown that job crafting leads to noteworthy outcomes, yet little is so far known about its antecedents.

**Antecedents of team job crafting**

According to the JD-R theory definition of job crafting used here, energy and motivation regulation, and the avoidance of health impairment are the primary initiators of this type of proactive behaviour (Tims & Bakker, 2010; Tims et al., 2012, 2013). Besides ameliorating an unsatisfactory work situation through shaping a team’s job demands and resources, job crafting may also be performed in order to maintain or even increase the team’s motivation and ability to achieve their goals. We focus here on resources at the individual, team and organizational levels having the potential to facilitate the expansion of job resources and reduction of job demands. Owing to their inherently positive nature, these resources also have the potential to increase approach motivation (Elliot, 2008; see also Bipp & Demerouti, 2015). More specifically, the antecedents of team job crafting are sought in individual factors (i.e., self-efficacy for teamwork, daily affect), team features (i.e., team cohesion, climate) and the organizational context of teams (i.e., engaging leadership and organizational resources for teamwork).

The antecedents of individual job crafting are considered to lie in characteristics of the job and/or the individual (Tims & Bakker, 2010; Wang et al., 2016). Single job characteristics such as discretion (Leana et al., 2009) and skill variety (Kanten, 2014) as well as combinations of job characteristics (Petrout, Demerouti, Peeters, Schaufeli, & Hetland, 2012) have predicted the use of job crafting strategies. Individual characteristics, such as self-efficacy (Tims, Bakker, & Derks, 2014) and proactive personality (Bakker, Tims, & Derks, 2012), have also been found to facilitate job crafting. However, we argue that focusing exclusively on general job characteristics and context-free dispositional traits would lead to an unduly restricted understanding of team job crafting. As team job crafting is inherently a team process, it is—like all teamwork processes— influenced by factors on three levels, namely, individual, team and organization (Kozlowski, 2015). Therefore, to fully understand team job crafting, all three levels need to be considered. In the absence of a single theory through which to identify a set of relevant individual, team and organizational variables for team job crafting, we drew on the teamwork
literature and selected variables known to contribute to teamwork (Salas, Shuffler et al., 2015; see also Kozlowski, 2015).

The individual-level variable that we focused upon was self-efficacy for teamwork (Eby & Dobbins, 1997). Self-efficacy for teamwork refers to individuals’ faith in their capabilities particularly in the team setting, and is thus arguably a more appropriate predictor of specific team behaviour—such as team job crafting—than global efficacy scales. The role of team members’ daily affect was also investigated as an individual factor. Team behaviour was studied through two affective team processes—team cohesion and climate—that drive team members to work and perform together (e.g., Casey-Campbell & Martens, 2009). The organizational contextual variables identified as important determinants of teamwork were leadership and organizational resources. Leadership in this study is measured in terms of engaging leadership—a novel, promising mode of leadership demonstrably associated with a reduction in job demands and an increase in the job resources of subordinates (Schaufeli, 2015). Organizational resources—which are fundamental to teamwork (Salas, Shuffler et al., 2015)—were operationalized through time and human resources for teamwork, as these are known to be crucial for the multi-professional teams investigated in this study. Each of the possible antecedents of team job crafting studied here is discussed below.

**Individual antecedents of team job crafting**

**Self-efficacy for teamwork**

Teams are composed of individual team members with specific characteristics (e.g., expertise, knowledge, skills and personality) necessary for accomplishing team goals (Salas, Shuffler et al., 2015). Individual characteristics influence the manner and extent to which teams engage in team activities (see Kozlowski & Bell, 2003), such as job crafting behaviour. For instance, employees’ work orientation influences the kind of job crafting they engage in (Wrzesniewski & Dutton, 2001). Kira, van Eijnatten, and Balkin (2010) argued that collaborative job crafting arises from individuals’ attempts to develop their personal resources and create sustainable work, which implies that collaborative job crafting may emanate from individual motives. In addition to team members’ work orientation, personality characteristics are also expected to predict job crafting (Bipp & Demerouti, 2015; Tims & Bakker, 2010).

Research has demonstrated that self-efficacy—the belief in one’s ability to complete tasks and attain goals (Bandura, 1977)—predicts job crafting at the overall level (Tims & Bakker, 2010) as well as on a daily basis (Tims et al., 2014). Perceptions of team-level efficacy are also positively associated with team job crafting behaviour (McClelland et al., 2014). Here we investigate self-efficacy in the context of teamwork, which refers to an individual employee’s willingness and enthusiasm to work in a team as well as the belief that s/he has the necessary interpersonal skills to work effectively in a team setting (Eby & Dobbins, 1997). This individual characteristic has been linked with improved team processes and several positive individual- and team-level outcomes. For example, Staples and Webster (2007) found self-efficacy for teamwork to relate positively to team satisfaction, and to individual and team performance. In addition, it has been positively associated with individuals’ teamwork behaviour, such as participating in decision-making and teamwork leadership (Tasa, Taggar, & Seijts, 2007), and initiating task interdependence, meaning the degree to which the individual facilitates the work of others (Taggar & Haines, 2006). Both behaviours have been shown to have positive consequences for the success of teamwork.

Consequently, as employees with convinced of their efficacy in teamwork actively contribute to team processes by being innovative and taking charge of their own as well as others’ work (Taggar & Haines, 2006; Tasa et al., 2007), it is reasonable to expect that such convictions also lead to the crafting of social (e.g., through increased formal and informal interaction between team members) and structural (e.g., through effective division of labour among team members) job resources by teams. It is also possible that team members convinced of their own efficacy have good teamwork skills and are therefore better able to sense and avoid conflicts and ease the team atmosphere, thereby also reducing hindering job demands. Confidence in one’s own and the team’s success may even lead to the crafting of challenging job demands, such as seeking extra work assignments for the team. Consequently, we hypothesize that:

**Hypothesis 1:** Self-efficacy for teamwork is positively associated with team job crafting.

**Positive affect of team members**

Team members’ affect influences both their interaction and the team’s performance. Research has shown that employee positive affect is associated with several outcomes on the team level, such as perceived and objective performance (Barsade, 2002; Hmieleski, Cole, & Baron, 2012), prosocial behaviour (George, 1990), greater cooperation (Barsade, 2002), group-level efficacy (Gibson, 2003), transactive communication (Neff, Fulk, & Yuan, 2014) and willingness to engage in organizational citizenship behaviours (Tanghe, Wisse, & Van Der Flier, 2010). Forgas (1998) also found that positive mood in negotiations, enhanced cooperation and the pursuit of creative solutions.

In light of the empirical evidence presented earlier, we decided to investigate employee positive affect as a potential precursor of team job crafting. Accordingly, we expect team members’ positive affect to increase interaction between team members, thereby creating preconditions for social crafting. In addition, team members’ positive affect was expected to invigorate others, thus leading to greater innovativeness among the team and possibly also to a tendency to raise the team’s level of challenge. Furthermore, positive affect may serve to...
Positive affect of team members is positively associated with team job crafting.

Team affective processes as antecedents of team job crafting

Social ties between team members (i.e., interaction and interpersonal closeness) are associated with collaborative job crafting (see Leana et al., 2009). In the present study, we investigated the role of team cohesion and team climate, both of which drive team members to work and achieve together (e.g., Casey-Campbell & Martens, 2009).

Team cohesion

Team cohesion is defined as “the resultant of all the forces acting on the members to remain in the group” (Festinger, 1950, p. 274). Team cohesion has been dogged by inconsistency in definition and measurement; a recent review, for instance, shows that team cohesion has been conceptualized in over 35 ways (Salas, Grossman, Hughes, & Coultas, 2015). Nevertheless, there is increasing agreement that cohesion is a multidimensional construct including both task and social aspects, namely task cohesion, which reflects the task commitment of the team members, and social cohesion, which reflects the bonds that drive the team members to work with each other (Carless & De Paola, 2000; Salas, Grossman et al., 2015). Both these aspects are included in the scale used in the present study.

Performance as an outcome of team cohesion has received the most attention in meta-analyses and reviews (Beal, Cohen, Burke, & McLendon, 2003; Carron, Colman, Wheeler, & Stevens, 2002; Chiocchio & Essiembre, 2009; Evans & Dion, 1991; Mullen & Copper, 1994), and the results show irrefutable evidence that team cohesion has beneficial consequences for team performance. In addition to performance, cohesion is also related to prosocial behaviours (George & Bettenhausen, 1990), such as organizational citizenship behaviour (Kidwell, Mossholder, & Bennett, 1997). Here we argue that increased task and social cohesiveness stimulate team members to spend more time coordinating their work and solving possible problems by effective negotiation (see also Leana et al., 2009), and that this is reflected in various job crafting behaviours. Consequently, we hypothesize that:

Hypothesis 3: Team cohesion is positively associated with team job crafting.

Innovative team climate

We also investigate innovative team climate (Anderson & West, 1998; West, 1990) as a potential antecedent of team job crafting. Overall, team climate can be seen as a group-level construct comprising the psychologically meaningful representations of the work environment at the individual level (James et al., 2008). West’s (1990) model of an innovative team climate includes several dimensions, e.g., vision (i.e., the extent to which team members share clear and valued objectives), participative safety (how participative the team is in decision-making) and support for innovation (work practices aimed at conducive to innovation) (Anderson & West, 1998).

Innovative team climate (Anderson & West, 1998) has been linked to several beneficial teamwork outcomes, such as work well-being (Dackert, 2010), job satisfaction (Proudfoot et al., 2007) and various performance indicators, such as customer satisfaction (Mathisen, Einarsen, Jørstad, & Brønnick, 2004), project performance (Pirola-Merlo, 2010) and team innovation (Bain, Mann, & Pirola-Merlo, 2001). Here, we propose that teams whose members share a specific attitude towards innovation are also likely to seek challenges together. Furthermore, a supportive team climate will foster interaction between team members by creating a psychologically safe atmosphere in which to discuss and develop the team’s work in a positive direction, such as enabling team members to work in their own way at their own pace and thereby also reducing their workload. Consequently, we hypothesize that:

Hypothesis 4: Innovative team climate is positively associated with team job crafting.

Organizational antecedents of team job crafting

The possible antecedents of team job crafting are located in the organizational context in which the team operates, and are assessed via connecting leadership and the organizational resources for teamwork.

Connecting leadership

Successful teamwork is fostered by leadership behaviour (Salas, Shuffler et al., 2015). Although the core feature of job crafting is that employees tailor their jobs themselves rather than being directed by others (Berg et al., 2013), it has recently been suggested that leaders can stimulate employees’ job crafting behaviour, e.g., through building a supportive work climate, designing resourceful jobs and promoting organizational identification (Wang et al., 2016). Wang and colleagues suggest that both transformational leadership, e.g., idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (see Bass, 1985) and empowering leadership, e.g., delegation of job autonomy, fostering participation in making and eliciting creativity (Zhang & Zhou, 2014) can influence job crafting behaviour. These two leadership styles have been found to increase employee proactive behaviours akin to job crafting behaviours (Chiaburu, Smith, Wang, & Zimmerman, 2014; Martin, Liao, & Campbell-Bush, 2013).

The impact of leadership behaviour on job crafting has hitherto been largely neglected. To the best of our knowledge, only two studies have focused on leadership behaviour in relation to job crafting. Leana et al. (2009), in a study of small teams of only two to three childcare workers, reported that supportive supervision was positively associated with collaborative job crafting. Slemp and colleagues (Slemp, Kern, & Vella-Brodrick, 2015) reported a reciprocal relation
between individual job crafting and support for autonomy, a concept that refers to a managerial orientation towards providing employees with opportunities for decision-making and encouraging employee initiative (see also Moreau & Mageau, 2012).

In the present study, we investigate for the first time the role of engaging leadership (Schaufeli, 2015) as a possible antecedent of team job crafting. Engaging leaders inspire, strengthen and connect their followers, thereby promoting the fulfillment of employees’ basic psychological needs (i.e., autonomy, competence and relatedness; Deci & Ryan, 2000), which, in turn, is expected to promote employees’ job-related well-being, such as engagement (Schaufeli, 2015). For the purposes of this study, we focus on the connecting dimension of engaging leadership, i.e., the extent to which leaders encourage collaboration and interpersonal bonding, and seek to foster a good team spirit (Schaufeli, 2015). Engaging leadership has so far been linked with high levels of self-rated performance behaviors measured, e.g., via proactivity, self-development and in- and extra-role performance (Schaufeli, 2015), behaviors akin to job crafting. Furthermore, it has been shown that engaging leaders reduce job demands and increase job resources, and hence have an indirect impact on the levels of burnout and engagement among their subordinates by creating more resourceful jobs (Schaufeli, 2015). Along with creating an environment conducive to resourcefulness, we argue that connecting leaders may encourage the job crafting behavior of teams through their ability to foster social relationships among team members. Establishing a good and trusting atmosphere between team members makes it easier to communicate ideas about new ways of working and even to reduce job demands as the need arises. Through their stimulating approach to management, such leaders may also encourage teams to aim higher (e.g., by raising the level of challenge in their work). However, it should be noted that although connecting leaders create a platform for team job crafting by building a trusting, open and supportive work climate and even acting as a role model for job crafting (Wang et al., 2016), it is the team members themselves who decide whether or not to engage in crafting their jobs. Consequently, we hypothesize that:

**Hypothesis 5:** Connecting leadership is positively associated with team job crafting.

**Organizational resources for teamwork**

A supportive organizational context for teamwork is also essential for team performance. Salas and colleagues (Salas, Shuffler et al., 2015) state that acknowledging the context of teamwork is fundamental as it influences how teamwork is actually carried out and how the team members interact with each other. Previously investigated organizational resources include opportunities for development, such as training. These have been shown to be positively related to a team’s cognitive, affective, process and performance outcomes (for a meta-analysis, see Salas et al., 2008) and work-facilitating resources, such as technology (Fuller & Dennis, 2009). Moreover, perceived organizational support is associated with extra-role performance, affective commitment and job involvement among individual employees (for a review, see Rhoades & Eisenberger, 2002).

However, organizations can facilitate the work of teams by providing various resources, depending on the form of the team and its tasks. Here we investigated organizational resources for enhancing the teamwork of multi-professional rehabilitation teams. Rehabilitation workers are known to suffer, in particular, from time pressures and heavy workload (Flett, Biggs, & Alpass, 1995; Templeton & Satcher, 2007), stressors known to have harmful effects on teamwork and team performance (e.g., Urban, Weaver, Bowers, & Rhodenizer, 1996). Consequently, we focused on the organizational provision of time-based resources for teamwork (e.g., sufficient time for teamwork, reasonable team workload). Along with time-based resources, organizational human resources were also taken into account, e.g., whether the team has enough staff/expertise and whether work tasks were evenly distributed. Time and human resources for teamwork are among the key factors facilitating job crafting behaviors, as they enable interaction and the development of expertise, both of which may help to increase structural and social job resources and challenging job demands. These resources—having enough time available for teamwork and sufficiently competent team members to enable sharing of the workload—also help to ensure that the team’s workload is not excessive. It is therefore hypothesized that:

**Hypothesis 6:** Organizational resources provided for teamwork are positively associated with team job crafting.

**Method**

Data for the study were collected among multi-professional teams working in Finnish rehabilitation centres that organize vocationally oriented medical rehabilitation courses (the Finnish acronym is ASLAK). ASLAK is a multidisciplinary, early rehabilitation programme funded by the Social Insurance Institution of Finland and caters for employees at imminent risk of impaired work capacity. The programme consists of three to four periods (15–21 days in total) of in-patient, multi-modal and multi-professional rehabilitation implemented over 1 year as group-based supervised activity. The multi-professional team consists of a physician, a physiotherapist, a psychologist, a social worker, and a vocational rehabilitation specialist. A nurse, an occupational therapist, an occupational physiotherapist and a nutritionist may also be part of the multi-professional ASLAK team. As well as funding the ASLAK courses, the Social Insurance Institution of Finland issues guidelines on their implementation, including course content, composition and the number of meetings of the multi-professional team. Thus the courses are organized in a similar way in all Finnish rehabilitation centres.

Multi-professional rehabilitation teams were selected as the target group of the study for two reasons. First, they meet the criteria of a real team (Lyubovnikova et al., 2015; West & Lyubovnikova, 2013), as the team members share clear objectives, and as a team draw up a personal rehabilitation plan for
each client. The team members also work interdependently, i.e., the rehabilitation plan is a multidisciplinary product that includes personal development targets for each individual (e.g., physical and psychosocial). Consequently, the target of the teamwork is a product of professional skills across different disciplines, and is thus shared. Teams moreover reflect regularly on the effectiveness of their work and continuously update their way of working on the basis of feedback collected after every in-patient period. Second, owing to their regular meetings, they provide an exceptional opportunity to investigate real team processes, such as team job crafting, on a daily basis.

In fall 2014, the 25 rehabilitation centres permitted to organize ASLAK courses were invited to participate in the research project. Of these, five declined, some of them due to involvement in other research projects. The 20 Finnish rehabilitation centres that agreed to participate can be considered representative of the target occupational group selected for study. Data collection in the participating rehabilitation centres was done by the multi-professional teams working at the start of an ASLAK course. Participating team members were first asked to fill out a general questionnaire 2 weeks before the course started, and two daily surveys after their regular team meetings during the start of the course. In the first meeting, each rehabilitation patient’s background information (e.g., medical history, test scores) was distributed and carefully evaluated, thereby highlighting individuals’ special needs. In the second meeting, the teams summarized the first in-patient rehabilitation period and started to plan the next in-patient period due to take place a few months later. Daily surveys were completed after the team meeting on the same working day. The time lag between the two daily surveys was approximately 1 week. Surveys were sent to the target person’s work e-mail address using the Mrinterview programme (for the programme user’s guide, see https://www.ibm.com/support/knowledgecenter/SSLVQG_7.0.1/data_collection_interviewer_server_ddita/datacollection/mrinterviewguide/userguide/userguidemain.html). Team members were informed that participation was voluntary, and no incentives were provided.

Altogether 46 multi-professional teams participated in the study. A background questionnaire was sent to 128 team members, of whom 119 responded (response rate; 93%). Daily surveys were sent to 188 participants. The larger number of daily survey participants was due to overlapping team memberships. This was particularly the case in the smaller rehabilitation centres, where the staff included only one physician or psychologist. However, most of the participants (70%) belonged to only one ASLAK team. Despite multi-memberships, the processes studied in the team were unique as the other members of the team varied and the courses did not overlap in time. The response rate for the first daily survey was 82.6% (n = 147/178), after excluding 10 people who reported that they were unable to participate in the daily team meetings. The response rate for the second daily survey was 75.7% (n = 131/173), after excluding 15 non-participants at daily meetings.

The study sample comprised 119 employees working in 46 teams. Most of these participants were women (75%). Mean sample age was 48 years (standard deviation [SD] = 9.8, range 26–64 years) and the sample was highly educated, with 98% holding an academic degree and 89% a permanent employment contract. Average work experience in rehabilitation was fairly long (M = 16.4 years, SD = 10.35) and mean length of service in the same rehabilitation centre was 9.92 years (SD = 7.84). Mean team size was 4.28 members (SD = 0.91).

**Measures**

Self-efficacy for teamwork, connecting leadership and organizational resources for teamwork were approached as fairly stable individual and team contextual factors, and thus they were only measured once in the background questionnaire. By contrast, employee affect, team cohesion, team climate and team job crafting were measured twice in the daily surveys as they represented the team’s day-specific states or processes evolving from interaction between individual team members (Kozlowski, 2015; Kozlowski & Klein, 2000; Salas, Shuffler et al., 2015). For all scales, a five-point rating scale was used (1 = totally disagree, 5 = totally agree); for daily affect, responses were given on a scale that ranged from 1 = not at all to 5 = extremely.

**Self-efficacy for teamwork** was measured using an eight-item scale (Eby & Dobbins, 1997). The items measure self-perceived ability to work effectively in a team environment (e.g., “I can work very effectively in a group setting”). Cronbach’s alpha for the scale was .79.

Participants’ daily **affect** was measured using the Positive Affect and Negative Affect Scale (PANAS-X; Watson & Clark, 1999). Both positive and negative affect was evaluated via three adjectives (e.g., “happy”, “nervous”, “enthusiastic”). Cronbach’s alpha for the six-item affect scale was .80 at Time 1 and .81 at Time 2.

**Team cohesion** was measured via three items taken from the work-adapted version of the Group Environment Questionnaire (Carlless & De Paola, 2000). The items were adapted to measure cohesion on the day level (e.g., “Today our team was united in trying to reach its performance goals”). Cronbach’s alpha for the team cohesion was .70 at Time 1 and .71 at Time 2.

**Innovative team climate** was measured using nine items taken from the short version of the Team Climate Inventory (Kivimäki & Elovinio, 1999; see also Anderson & West, 1998), modified to capture climate on the day level (e.g., “Today people feel understood and accepted by each other”). We measured three dimensions of team climate: (1) focus on clear and realistic goals (shared vision), (2) team member interactions that are participatory and interpersonally non-threatening (psychological safety) and (3) efforts at innovation (innovation support). Cronbach’s alpha for the nine-item composite scale was .83 at Time 1 and .86 at Time 2.

**Connecting leadership** was measured with three items taken from the Engaging Leadership scale (e.g., “My supervisor creates a team spirit between us”) (Schaufeli, 2015). Cronbach’s alpha for the connecting leadership items was .92.

**Organizational resources for teamwork** were measured using five items developed for present purposes. The items were designed to capture the time- and HR-based resources for
teamwork provided by the organization: "Our team has a reasonable workload", "There is enough time for teamwork", "Tasks are equally distributed between the team members", "Our team has a sufficient range of expertise" and "Our team has a reasonable number of duties". Cronbach’s alpha for the five-item composite scale was .72.

Job crafting was measured with the Job Crafting Scale (Tims et al., 2012) adapted for the team level (Tims et al., 2013). Increasing structural job resources (e.g., "Today we made sure that we used each team member’s capacities to the fullest"), decreasing hindering job demands (e.g., "Today in our team we asked each other for feedback") and increasing challenging job demands (e.g., "Today our team asked for more responsibilities") were modified to capture team job crafting at the day level. The items used for increasing challenging job demands were modified to capture day-level job crafting following Petrou et al. (2012). Cronbach’s alpha for the team job crafting scale was .81 at Time 1 and .79 at Time 2.

Control variables. In line with Leana et al. (2009) and McClelland et al. (2014), team size and work experience in the organization (in years) were used as control variables.

Discriminant validity

As team cohesion, innovative team climate and team job crafting were strongly correlated (see Table 1), and partly overlap conceptually, we tested their discriminant validity simultaneously using confirmatory factor analysis. According to the Satorra–Bentler scaled difference chi-square test (Satorra & Bentler, 2001), \( \chi^2(167) = 823.772, p < .001 \), the three-factor model, where the items of team cohesion, innovative team climate and team job crafting were constrained to load on their own factors, \( \chi^2(170) = 921.274, p < .001 \), CFI = .86, RMSEA = .10, SRMR = .08, scaling correction factor for MLR = 1.15. These findings indicate that the studied variables (i.e., team cohesion, innovative team climate and team job crafting) constitute distinct constructs. Similar results were obtained at Time 2 (the results are available from the first author upon request).

Statistical analysis

The data analysis proceeded in two steps. First, the intraclass correlations (ICCs) were calculated for the studied constructs by dividing the between-team variance by the total variance (total variance = between-team variance + within-team variance) (Heck, 2001). The correlations between the study variables were also calculated at both the within- and between-team levels. Between-team level associations were estimated only for variables with significant ICCs. Second, multilevel regression modelling was used to investigate the relationship between antecedents and team job crafting at both within and between levels. With the multilevel technique utilized here, the variance in the observed variables is divided into two components: variation due to similarity among the employees on the same team (between-team level variation) and variation due to individual differences within the teams (within-team level variation) (Muthén, 1997). The intercepts of the variables are modelled as random intercepts varying across teams. Consequently, instead of using aggregation procedures, the multilevel analyses were grounded in variance-based (dispersion) components (see Kozłowski, Chao, Grand, Braun, & Kuljanin, 2013). The individual and organizational correlates derived from the background questionnaire (i.e., self-efficacy for teamwork, connecting leadership and organizational resources for teamwork) and day-specific individual and team-related correlates (i.e., employee affect, team cohesion and innovative team climate) were analysed in separate models owing to their different measuring times, and the

Table 1. Means (M), standard deviations (SDs), intraclass correlations (ICCs) and Correlations between study variables at the within (below the diagonal, \( N = 119 \) individuals) and between (above the diagonal, \( N = 46 \) teams) data levels.

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<tbody>
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<td>6. Work experience (in years)&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>7. Team size&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>8. Self-efficacy for teamwork&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>9. Affect T1</td>
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<td>15. Connecting leadership&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>18. Job crafting T2</td>
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<sup>a</sup>Variable from background questionnaire. <sup>b</sup>Between-team level. Self-efficacy for teamwork, employee affect, team cohesion and organizational resources for teamwork were estimated only at the within-team level owing to non-significant ICCs. \( r \geq .20, p < .05 \), at the within-team level and \( r \geq .60, p < .05 \) at the between-team level.
complexity of multilevel modelling with respect to a relatively small number of clusters (i.e., teams) and the overall sample size. The two daily measurements were also analysed separately in order to ascertain whether similar relationships persisted between the day-level antecedents and team job crafting measured at different time points.

Analyses were performed using Mplus 7.0 (Muthén & Muthén, 1998–2012). The parameters of the models were estimated using maximum likelihood estimation with robust standard errors (SEs) and scale-corrected chi-square test values (MLR estimator; Muthén & Muthén, 1998–2012). The missing data method was used (i.e., the standard missing at random approach), which allowed the use of all the observations in the dataset to estimate the parameters in the models without imputing data.

Results

Descriptive results: correlations and ICCs

The means, SDs and correlations between the study variables are presented in Table 1. Only innovative team climate, connecting leadership and team job crafting had statistically significant ICCs (see Table 1). Consequently, in the subsequent analyses, all the other variables, i.e., self-efficacy for teamwork (ICC = .04, non-significant [ns.]), affect (ICC\(_{T1} = .03\) ns, ICC\(_{T2} = .05\) ns), team cohesion (ICC\(_{T1} = .10\) ns, ICC\(_{T2} = .04\) ns) and organizational resources for teamwork (ICC = .02, ns.), were only used as within-team level variables. Employee affect, team climate and connecting leadership showed the highest associations with team job crafting, although all the studied antecedents correlated significantly with team job crafting.

Multilevel regression modelling

Among the control variables, only team size correlated significantly with team job crafting (see Table 1). However, in the multilevel regression models, it showed non-significant associations with team job crafting at both measurements: standardized estimate = –0.098, SE = 0.064, \(p = 0.129\) at Time 1 and standardized estimate = –0.061, SE = 0.038, \(p = 0.110\) at Time 2. In addition, as team size did not correlate significantly with team job crafting measured at different time points.

The results for the multilevel regression modelling showed first (see Table 2) that self-efficacy for teamwork was positively associated with team job crafting at the within-team level (standardized estimate = .40, \(p < .01\)): the higher individuals’ perceptions of their self-efficacy for teamwork, the higher their perception of their team’s job crafting. Connecting leadership, in turn, was associated with team job crafting at both data levels: standardized estimate .32, \(p < .05\) at the within-team level and .34, \(p < .05\) at the between-team level. This finding suggests that the higher individuals’ perceptions of connecting leadership, the higher their perception of their team’s job crafting, and the higher the team’s perception of connecting leadership, the higher the level of the team’s job crafting. Organizational resources for teamwork did not explain the job crafting behaviour of the team.

The associations of day-level affect, team cohesion and innovative team climate with team job crafting behaviour at Time 1 are presented in Table 3. These results show that individual team members’ affect was positively associated with their perceptions of team job crafting at the within-team level (standardized estimate .38, \(p < .001\)). This result suggests that the higher individuals’ daily affect, the higher their perceptions of their team’s job crafting. An innovative team climate was positively associated with perceived team job crafting at both data levels: standardized estimate .45, \(p < .001\) at the within-team level and .89, \(p < .05\) at the between-team level. These findings suggest that the higher individuals’ perceptions of an innovative team climate, the higher their perceptions of their team’s job crafting, and the higher the team’s perception of an innovative team climate, the higher the level of the team’s job crafting. Contrary to expectations team cohesion did not make a significant contribution to team job crafting behaviour at Time 1. The significant findings of employee affect and innovative team climate with team job crafting were replicated at Time 2 (see Table 3). However, at the second measurement, team cohesion was also positively and significantly associated with team job crafting behaviour at the within-team level (standardized estimate .22, \(p < .05\)).

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<tr>
<th>Table 2. Trait-level individual and organizational antecedents of team job crafting at Time 1: multilevel regression analysis.</th>
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<tr>
<td><strong>Antecedents</strong></td>
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<td><strong>Within-team level</strong></td>
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<td>Self-efficacy for teamwork</td>
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<td><strong>Between-team level</strong></td>
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<td>Connecting leadership</td>
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*p < .05. ns. = non-significant.

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<tr>
<th>Table 3. Day-specific individual and team factors as antecedents of team job crafting at Time 1 and Time 2: multilevel regression analysis.</th>
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<tr>
<td><strong>Antecedents</strong></td>
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<td><strong>Within-team level</strong></td>
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<td>Affect T1</td>
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<td>Team cohesion T1</td>
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<td>Between-team level</td>
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<td>Innovative team climate T1</td>
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<td><strong>Within-team level</strong></td>
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<td>Affect T2</td>
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<td>Team cohesion T2</td>
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<td>Innovative team climate T2</td>
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<td>Between-team level</td>
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<td>Innovative team climate T2</td>
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***p < .001. ns. = non-significant.
Discussion

The present study investigated antecedents of daily team job crafting behaviour among so-called real teams (see Lyubovnikova et al., 2015; West & Lyubovnikova, 2013). The individual, team and organizational antecedents of team job crafting to be investigated were selected on the basis of the teamwork literature (Salas, Shuffler et al., 2015). The main findings showed that high level of individual self-efficacy, innovative team climate, positive affect of team members and perceptions of connecting leadership were associated with team job crafting behaviour. These main findings are discussed in more detail below.

Main findings

The results showed that at the individual level, self-efficacy for teamwork was associated with team job crafting behaviour, which suggests that team members with a propensity to work in a team setting and with the conviction that they are good team players not only participate actively in teamwork (Taggar & Haines, 2006; Tasa et al., 2007) and contribute to the successful performance of the team (Driskell, Salas, & Hughes, 2010) but are also eager to increase the team’s job resources. This occurs, e.g., by seeking advice from, as well as providing feedback to, other team members, and also by motivating others to engage in such behaviours. General self-efficacy has previously been found to be associated with the job crafting behaviour of individual employees (Tims et al., 2014). However, to facilitate team job crafting, the individual employee’s overall beliefs in successful outcomes, while important and necessary, may not suffice to facilitate teamwork. Willingness and enthusiasm to invest energy in teamwork itself are also crucial contributors.

According to our predictions, the daily affect of team members was related to the use of job crafting strategies at the individual level. Earlier research has largely focused on the impact of positive affect on the individual-level outcomes, i.e., on how affect stimulates employee prosocial behaviour (George, 1990), communication (Neff et al., 2014) and cooperation (Barsade, 2002). We found positive affect to be an important element of teamwork, because it contributed significantly to team job crafting behaviour at both time points. These results are in line with the approach motivation theory (Elliot, 2008), according to which positive emotions increase and facilitate active behaviour, such as job crafting. Positive emotions also increase positive interactions between colleagues and the probability that conflicts will not occur, which are also predictors of good performance (Rispens & Demerouti, 2016).

We also explored the role of perhaps the two most investigated team constructs, namely, innovative team climate and team cohesion (for reviews, see Salas, Grossman et al., 2015; West & Richer, 2011). Of the two, innovative team climate turned out to be the most influential precursor of daily job crafting behaviour at both levels of the data. Consequently, a team climate characterized by clearly defined and shared goals, a high degree of participation and concrete support for innovative behaviour served as a motivating force for shaping job characteristics (see Anderson & West, 1998). It is noteworthy that innovative team climate also explained job crafting behaviour at the between-team level. The beneficial effects of an innovative and participative climate consequently go well beyond the individual; rather than being an individual phenomenon, innovativeness seems to spread across the team’s members, thereby facilitating collaborative team job crafting behaviours. Team cohesion was also associated with team job crafting, but only at the second team meeting. Cohesion therefore did not appear to be as strong and consistent a facilitator of team job crafting as team climate. It may be that high levels of cohesiveness also suppress the development and expression of new ideas, employee voice and new ways of working. Team cohesion may lead to greater conformity to group norms (see e.g., Langfred, 2000). The tendency to uniform behaviour may thus cause conformity pressures, which, in turn, may inhibit team proactive job crafting behaviour. However, as team cohesion was both unrelated and positively related to team job crafting behaviour, its role in team proactive behaviour needs further investigation.

The results also revealed that connecting leadership was positively associated with team job crafting behaviour at both individual and team levels. This new finding lends support to the hypothesis that leaders can stimulate employee job crafting behaviour by connecting and binding their followers together (Wang et al., 2016). By encouraging team members to collaborate, by stimulating interpersonal bonding and by enhancing the team spirit (Schaufeli, 2015), connecting leaders foster trust, information sharing and openness between the team members. Support for such interactions and the creation of a safe atmosphere is vital, as social interaction is one of the key elements in successful teamwork (Salas, Shuffler et al., 2015). Thus, for teamwork, and especially for team job crafting behaviour, the role of connecting leadership seems essential, as this effect was observed for both individuals and teams. The theoretical implications of the associations of individual, team and organizational resources with team job crafting is discussed next. Future avenues for team job crafting research are also suggested.

Theoretical implications and conclusions

This study provides insights into the predictors of team job crafting behaviour. In light of our findings, we argue that job crafting behaviours are promoted by the individual employee’s attitude to teamwork, positive employee affect, affective group dynamics and specific managerial behaviours. Task-specific efficacy beliefs and positive affect of team members were crucial correlates of team job crafting behaviour for individuals, as innovative team climate and connecting leadership facilitated team job crafting behaviour beyond the individual, and thus across teams. These results reveal two categories of potential antecedents of team job crafting: short-term motivational, affective team processes and long-term employee characteristics and leadership. Consequently, individual dispositional characteristics—known to be fairly stable over time (Mäkikangas, Feldt, Kinnunen, & Mauno, 2013)—facilitate proactive behaviour in a team context in an enduring way. In addition, leaders stimulate job crafting behaviour by
designing resourceful job environments and building a supportive team climate; that is, they create a sustainable platform for job crafting behaviour. However, for team job crafting behaviour to occur in the everyday work context requires favourable group dynamics generated by positive affect of team members and a team climate characterized by a clear vision of the targets, supportiveness and innovation. We therefore suggest, in light of these results that, whereas individual and leadership resources create a platform for job crafting behaviour, the motivational affective state of employees and teams determine this behaviour on the daily level.

Individual and job characteristics are considered the primary antecedents of job crafting behaviour (Tims & Bakker, 2010; Wang et al., 2016). However, to identify the facilitators of team job crafting behaviour, this individual-oriented perspective needs to be broadened. That is, to understand the daily job crafting behaviour of teams, the specific characteristics of the team in question also need to be considered. Leadership too proved to be a promising associate of team job crafting. The role of leadership for job crafting has so far only been speculative (Wang et al., 2016); this study is thus among the first to empirically demonstrate its role.

In the context of the JD-R theory, the purpose of job crafting behaviour is primarily to enhance work engagement and prevent health impairment (see Wang et al., 2016). It is reasonable, therefore, to investigate individual, team and organizational resources as facilitators of job demand and resource shaping. However, it is also important to recognize the positive affective nature of the team job crafting initiators found here: specifically, positive emotions at different levels (i.e., individual, team, leadership) related to the job crafting behaviour of the team. This is an important observation that could be explained via the Broaden-and-Build theory (Fredrickson, 1998), which posits that positive emotions can broaden thought–action repertoires and build intellectual, social and psychological resources. Positive emotions may also stimulate approach motivation, and thus increase interest, the ability to initiate and concern for others (Elliot, 2008). In sum, the positive affective-motivational states of individuals and teams seem to be crucial motivators of team job crafting. This perspective on job crafting is largely absent from the job crafting literature, which has instead emphasized that the motivation for job crafting lies in a mismatch between the individual and the job (Wrzesniewski & Dutton, 2001). Positive emotions and their theoretical foundations (Elliot, 2008; Fredrickson, 1998), then, seem to offer a fruitful basis for understanding teams’ job crafting behaviour on a daily level.

As team-based structures continue to be a common way of working (see Salas, Shuffler et al., 2015), continued research efforts aiming at a better understanding of team job crafting behaviour are needed. The complexity of teamwork, e.g., employees may be engaged in multiple permanent teams and temporary projects simultaneously, create additional challenges for the day-to-day investigation of job crafting behaviour. However, a more intensive study design could yield further knowledge on team job crafting behaviour. In addition, an interesting future research target would be to investigate the relation between the job crafting strategies of individual team members and those of their teams, the extent to which they overlap or differ from each other, and what are the consequences of this relation. Moreover, there is some evidence that the antecedents characterized as stable in the present study—leadership and individual factors—vary across days and weeks (see Breevaart, Bakker, Demerouti, & Derks, 2016; Tims et al., 2014). This issue should be taken into account in future team job crafting studies. Various operationalizations of job crafting could also be tested in a team context. In the present study, job crafting was operationalized on the basis of the JD-R theory (Tims et al., 2013). However, study designs in which team members describe their unique ways of job crafting might produce more detailed information on this phenomenon. This method has been successfully applied at the individual level (Lyons, 2008; Nielsen & Abildgaard, 2012).

Along with its contribution to the research field, this study also has some practical implications. Self-efficacy in the team domain showed a strong association with team job crafting behaviour. Hence in selecting employees for teamwork-based tasks, the interest and inclination to work in a team setting can be considered as one crucial criterion which should be taken into consideration along with the other individual-level psychological characteristics. Moreover, the concept of self-efficacy for teamwork offers a measurable and valid construct to evaluate compared to more abstract constructs such as “team personality” or “team ability” (see Kozlowski & Bell, 2003; Kozlowski & Klein, 2000). These results suggest that team leaders and organizations should focus on the enactment of a team orientation that includes among others the creation of positive affect and a good team climate (see Kozlowski & Bell, 2003), as these were crucial for team job crafting behaviour. The present results might also be of value in designing interventions aimed at promoting job crafting behaviour at the team level. This is important as job crafting interventions have so far been developed and studied exclusively at the individual level (see e.g., van den Heuvel, Demerouti, & Peeters, 2015). However, team job crafting can be reinforced at all “levels” of teamwork, i.e., at the individual, team and organizational levels, as the results of this study demonstrate.

Strengths and limitations

Some strengths and limitations of this study should be noted. This study was the very first to more broadly investigate the antecedents of team job crafting behaviour. More specifically, the study was a response to the call by Berg et al. (2013) to investigate the potential individual, team and organizational drivers of team job crafting. All the antecedents studied were selected from the teamwork literature (see Salas, Shuffler et al., 2015). A further strength of the study is that the data were gathered with very high response rates among so-called “real” teams (see Lyubovnikova et al., 2015; West & Lyubovnikova, 2013) on days when they held their meetings.

The study nonetheless has certain limitations that should also be addressed. First, as the antecedents of team job crafting were studied among female-dominated multi-professional rehabilitation teams, this may limit the generalizability of the findings to other types of (e.g., male-dominated) teams. Second, although the sample was representative of the target occupational group of the study, i.e., rehabilitation workers implementing ASLAK courses, it was rather small. Third, despite collecting data at two points during the team process within the rehabilitation
course, the study could be criticized for presenting a rather static view of teamwork, a weakness shared with most other teamwork studies (see Kozlowski, 2015). Fourth, there was no significant between-team variation in certain team constructs, i.e., team cohesion and organizational resources for teamwork, which limited the possibilities for investigating their role in team job crafting. Finally, although various antecedents of team job crafting were investigated, it should be remembered that the results do not imply causal relations. It may be that some assumed antecedents are also outcomes of job crafting processes, and/or reciprocally related, as demonstrated by Slep et al. (2015).

Final note

The results of this study are encouraging, as they show that team job crafting behaviour originates on the individual, team and organizational levels. All three levels should be taken into account in future research on team job crafting, likewise interventions intended to encourage team job crafting. In practice, it is important that each team member is a good team player, i.e., feels responsible for, and attempts to foster, a positive team climate and teamwork processes on a daily basis. Team members should also reflect either individually or collectively on what features of their work are rewarding and inspiring to them, how they would like to develop their different tasks and roles and how they might reduce work-related strain and create a culture that enables them to thrive. In other words, it would be important to encourage job crafting behaviour, since job crafting has been demonstrated to have positive effects on both individuals and teams (Tims et al., 2013). Leaders at different organizational levels also need to be aware of the importance of managing social processes and promoting cooperation between team members, and not just task-focused behaviour.

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