How Workplace Social Support and Workplace Interpersonal Conflicts mediate the relationship between Job Crafting and Participation in HRD activities.

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Abstract
This study investigates the relationships between job crafting and participation in HRD activities mediated by workplace interpersonal conflict and workplace social support. This research relies on the theories of Job Demands-Resources model (Bakker & Demerouti, 2007) and the Social Cognitive Theory (Heuvel, Demerouti, & Peeters, 2015) to explain why crafting employees would participate in HRD activities and perceive positive effects from social support and negative effects from interpersonal conflict. The Learning Network Theory (Poell & van der Krogt, in press) was used to provide a framework in which these work relations influenced the development of employees. These theories boasted expectations on how social interactions influenced crafting employees to participate in HRD activities. It seemed logical how social support would produce a positive effect and how interpersonal conflict would have a negative effect. With an online questionnaire, 123 responses from the Netherlands were used for a sample. Regression analysis was performed to review all the hypotheses in this study. The results showed a strong relationship on crafting employees participating in HRD activities. Workplace interpersonal conflict did not show a mediating effect while workplace social support indeed worked as a mediator in the relationship between job crafting and participation in HRD. Results, limitations, recommendations and implications were provided in this study.
Introduction

Why is organizing Human Resource Development (HRD) so problematic? This appealing question, as adapted for further research from the study of Poell and Van der Krogt (in press), forms the context of the current paper. There is a lot of indistinctness with the effectiveness of learning and development programs, the role of managers and the motivation of employees to participate in HRD activities (Poell & van der Krogt, in press). This is quite concerning when taking into account that continuous learning and development is crucial for organizations to keep adapting to fast changing and constantly growing economy and society (Hurtz & Williams, 2009; Maurer, Weiss, & Barbeite, 2003).

Nowadays, learning is not seen as an individual matter but more and more inquired as a social and organizational process. This seems logical as social relationships are very important for acquiring information, learning how to do a job and collectively solving complex tasks (Borgatti & Cross, 2003). From the field there is a demand for more information on relational characteristics of the HRD environment, as emphasized by Borgatti and Cross (2003). An important approach in understanding these interpersonal relations is offered by the Learning Network Theory (LNT) (Poell & van der Krogt, in press) which proposes that HRD is organized around organizational actors who are dependent of each other to achieve development through HRD. Employees use for example a coach or HRD practitioner, but equally colleagues, to achieve progress in their development through the expertise or relations provided by that coach, colleague or HRD practitioner. One way how employees organize their development is learning path creation wherein employees plan to participate in all kinds of learning and development activities. Rock and Garavan (2011) emphasize interaction with others as a central resource in this career decision making process. These positive or negative interactions with other employees provide substantial opportunities for insight and learning. The networks created/existing determine mostly which experiences employees can gain in different aspects of their job (Poell & van der Krogt, in press).

A individual process that is equally dependable of interpersonal relations is job crafting. Tims, Bakker and Derks (2015) state the fact that employees working in an organization usually do not perform their tasks in seclusion of their colleagues. In some tasks employees collaborate with others, or are affected by acts of colleagues. The term shared work environment is used to implicate that crafting one’s job influences another one’s job. Job crafting in this shared work environment could alter the learning network of employees through changes in their environment which subsequently could have a positive or negative effect on their development. Job crafting can be a very individual process (Tims, Bakker, & Derks, 2015), but mostly influences the environment of the crafting employee through changes in tasks or relational boundaries (Demerouti & Bakker, 2014).

This study tries to find an answer if employees who craft their job are more involved and participating in HRD activities. According to figure 1, as shown on the theoretical framework, participation in HRD (there appointed as learning-path creation) is influenced by interpretations that actors posses of the organizational structure, more specific the structure of the primary work process. When employees participate in job crafting they adjust these structures which could influence their participation in HRD. While employees craft their jobs they use and gain knowledge on how this can be done in the right way. They turn to development activities, in their capacity, to make sure their crafting reaches the right result.

Job crafting allows employees to modify characteristics of their work and the social work environment (Tims, Bakker, Derks, & Rhenen, 2013b). Modifying job characteristics not only affects the work of the crafter,
but can affect the work of other employees that work in the same environment (Tims, Bakker, & Derks, 2015). Tims, Bakker and Derks (2015) identified two trends in the job crafting literature. Job crafting is (1) mainly studied at individual level and (2) often the positive outcomes are studied. This study adds to existing knowledge by researching job crafting in a broader relational perspective and looks both at positive and negative interpersonal factors. This study takes into account workplace interpersonal conflicts and workplace social support as mediating variables to investigate if these positive or negative interactions influence the relationship between job crafting and participation in HRD activities. Another organizational structure concerns the relations among actors (line managers and employees), which is described as a network structure. Participation in HRD is influenced by this network structure through interpretations of actors which could be shaped by interpersonal conflicts and social support. Taking into account that individual job crafting affects the relational boundaries of the network structure which finally influences the participation in HRD. Conflicts or social support could influence the participation in HRD through negative outcomes (Glavin & Schieman, 2010) or by forming a buffer against psychological demands and stress (Ajzen, 1991). Workplace interpersonal conflict is defined as a range of negative interpersonal interactions employees experience in the workplace (Glavin & Schieman, 2010) while workplace social support is based on constructs like sympathy, caring, giving tangible assistance and providing help (Bowling, et al., 2004).

By examining the effect job crafting presents on participation in HRD, while taking into account social support and interpersonal conflict, this study tries to provide more insight in the antecedents of participation in HRD. To determine if social support or interpersonal conflicts affect crafting employees’ intentions to participate in HRD the following research question is adduced:

**RQ: To what extent does job crafting influence participation in HRD and to which extent is this relationship mediated by interpersonal relations.**

The practical relevance to answer this question lies in the insights HRD practitioners and supervisors receive regarding the degree of influence the relational perspective has on job crafting and the intention to participate in HRD. This study looks at the importance of relations involving participation in learning path creation. It assists to point out the importance of providing social support or handling conflicts. Thereby, this study provides insights in arranging job crafting while taking into account the relational aspects that emerge from crafting one’s job.
Theoretical Framework
This study initiates with clarifying the learning network theory to explain the broader context in which this research is set. Then it follows with definitions of job crafting, workplace social support and workplace interpersonal conflicts. Subsequently it elaborates on the linkages between the variables and builds hypothesis.

Learning-Network Theory
This study uses a network perspective on HRD, which was conceived by Van der Krogt (1998) and further developed in a study by Poell, Chivers, Van der Krogt and Wildemeersch (2000). Up to the present day this network perspective is still being expanded and researched by Poell and Van Der Krogt in diverse studies.

Learning is not an individual affair anymore but is increasingly seen as a social, organizational process where actors use an extensive network in shaping their development. A sound description of the core idea’s of LNT is as follows: “HRD processes (i.e., the creation of learning policies, of learning programs, or learning paths, and individual learning processes) are organized by a complex constellation of organizational actors (a.o., employees, line managers and HRD practitioners) as they interact with each other. Each actor has their own views, interests and positions, which are impacted by their specific interpretations of the existing organization and HRD structures” (Poell & van der Krogt, in press, p. 8). See figure 1 for a graphical representation.


These organizational actors interact with each other in a formal an informal fashion to create and expand organizational networks. These actors are mutually depended on each other to achieve development through learning path creation, which is elaborated on in the paragraph below. Traditionally, HRD is mostly seen as organizing training courses and is viewed as a tool of management. The LNT sheds light on a broader perspective in which employees are viewed as stakeholders and learn from different sources (Poell & van der Krogt, in press). The LNT carries an important role in this paper because it provides the framework in which the variables are studied.
Participation in HRD

Various actors in and around the organization administer a broad range of different activities that encourage, coordinate and realize employees’ learning and development. The LNT distinguishes four different HRD processes which are divided into management-driven and employee-driven learning processes. Management-driven processes consist of the creation of learning policies and learning programs while the employee-driven processes include learning paths creation and individual learning processes. This study takes into account the process of learning-path creation as explained by participation in HRD activities. Learning path creation is explained as employees conducting all kind of activities to direct their learning and development (Poell & van der Krogt, in press).

Participation in HRD can be defined as “employees’ degree of participation in voluntary employee development activities” (Hurtz & Williams, 2009, p. 650). Employee development activities are more conceptualized in a study by Noe, Wilk, Mullen and Wanek (1997). They distinguish four types of employee development activities. Formal courses and programs, employee assessments, on the job experiences and professional relationships can be considered as a wider notion of contemporary HRD since formal and informal activities are included and thereby job improvement, long term effectiveness, career development and voluntary activities are taken into account.

Job Crafting

Well designed jobs and optimal working conditions facilitate employee motivation and performance (Demerouti & Bakker, 2014). If these requirements are not adequate employees may take matter into their own hands and start with actively changing the design of their jobs by choosing tasks, try different job content and make their job more meaningful. This process of employees altering and shaping their jobs is known as job crafting and mostly occurs when employees experience high work pressure along with high autonomy. Job crafting is defined as the physical (form; scope; number of job tasks) and cognitive (how one sees the job) changes individuals make in their task or relational boundaries. Employees are motivated to craft their job based on three individual reasons: avoidance of negative consequences like alienation from work, enable a more positive self image (confirmed by oneself and others) and foster connection with others (Demerouti & Bakker, 2014; Wrzesniewski & Dutton, 2001).

This study views job crafting in the perspective of the Job Demands-Resources model (Bakker & Demerouti, 2007). The JD-R model explains the relationships between work characteristics and well-being and how job resources and job demands together influence motivation, health and organizational outcomes such as performance or absenteeism. Crafting employees demonstrate four behaviours: increasing social job resources, increasing structural job resources, increasing challenging job demands, and decreasing hindering job demands (Demerouti & Bakker, 2014; Tims, Bakker, & Derks, 2012). Increasing social job resources manifests itself as obtaining feedback and advice from colleagues and increasing structural job resources includes maximizing job autonomy and opportunity for development. Employees who engage in increasing challenging job demands want to maintain motivation and avoid boredom. Employees decreasing hindering demands want to achieve less emotionally, mentally or physically demanding factors of their work. When employees perceive high job demands, want to achieve goals or complete tasks, they cope by seeking job resources.
Job resources, both social and structural, could be viewed as work characteristics that support goal achievement, personal growth and development (Tims, Bakker, & Derks, 2015). Crafting one’s job helps employees to create formal and informal learning opportunities (Heuvel, Demerouti, & Peeters, 2015) which corresponds with participation in HRD activities. If an employee crafts his or her job by increasing opportunities for development, or job resource, this most likely leads to participation in HRD activities. Employees seek feedback on the trait they need to develop and adjust their learning paths to increase their job resources. Decreasing hindering job demands is related to lower performance and higher levels of burnout because employees want to achieve less emotionally, mentally or physically demanding factors in their work (Tims, Bakker, & Derks, 2015; Tims, Bakker, Derks, & Rhenen, 2013b). As participating in HRD activities could be seen as more emotionally, mentally or physically demanding factors participation in HRD most probably will not lead to more participation in HRD. Still, seeking challenging demands displays another view on participation in HRD because employees ask for more responsibilities or seek more challenging tasks. To achieve this, employees ought to apply knowledge or learn to comprehend those challenging tasks. This would most probably get them to participate in HRD activities.

The relationship between job crafting and participation in HRD
When employees craft their job they adjust the structure of the primary work process (fig. 1). This could affect the interpretations employees have of the organizational structure and subsequently changes their intentions to participate in HRD activities. How this works will be elaborated on below. This relationship is in more detail explained by the JD-R model and the Social Cognitive Theory (SCT). According to the job crafting theory, job crafting behaviour influences the levels of job demands and resources, but mostly builds job resources. When employees engage in job crafting, they are able to change the structure of the primary work process (fig. 1) by building more job resources (Heuvel, Demerouti, & Peeters, 2015). SCT describes how “behaviour is reciprocally related to and determined by personal factors as well as environmental factors. SCT states that learning occurs in a social context where information from other people’s behaviour is available and can be used to regulate one’s own behaviour” (Heuvel, Demerouti, & Peeters, 2015, pp. 513-514). SCT explains that humans rely on self-regulatory mechanisms to exercise control over their actions, motivation, emotions and thoughts. This manifests itself in self-monitoring: reflecting on actions undertaken by oneself and the environment. While engaging in job crafting this reflecting supports to track goal attainment (Heuvel, Demerouti, & Peeters, 2015). According to JD-R theory employees alter their work environment while seeking job resources to carry out their task successful (Demerouti & Bakker, 2014). While altering their job SCT explains how employees set goals to create their learning path and thus decide in which way they want to participate in HRD activities based on information from their network.

Employees who craft their job through resource seeking and challenge seeking experience more formal and informal learning opportunities in two ways (Heuvel, Demerouti, & Peeters, 2015). First, while crafting employees are motivated to reflect on their needs for development, taking into account relationships they can use to enhance learning. Secondly, job crafting leads to increased awareness of developmental opportunities. From Heuvel et al. (2015) this study extracts two examples to make the relationship more clear: “a crafting action related to increasing developmental opportunities was ‘finding out what budget is available to pursue a course on conflict management skills’. Another example was ‘applying for a position in the works council to build my
knowledge of the organisation” (p. 514). When employees commence with crafting their job they change relational boundaries, task boundaries, build new resources and try different actions, which leads to a sense of growth (Heuvel, Demerouti, & Peeters, 2015). However, demands reducing behaviour does most probably not lead to participation in HRD but shows a relation with increasing resources. Employees who reduce demands mostly try to cope with this by building resources. An example from Heuvel et al. (2015) should make this more clear: “Next week, I will take on less written work tasks, and I will make use of my travel time to type up reports” (p. 518). The example shows that demands decreasing behaviour increases resources, which is time in this example as travel time is used as a resource to decrease the demand written tasks. Less demands and more resources should overall have a positive effect on participation in HRD.

This leads to the following hypothesis.

H1: Job crafting has a positive effect on participation in HRD.

Workplace interpersonal conflict and workplace social support

Just like numerous other studies (Mennino, Rubin, & Brayfield, 2005; Voydanoff, 2005a; Dikkers, et al., 2007), Glavin and Schieman (2010) describe the informal culture of work and how it evolves each day through an extensive web of interpersonal interactions between employees, managers and customers.

Quick, Quick, Nelson and Hurrell (1997) describe these interactions between employees as interpersonal demands which lead to stress: “Individuals have various distinctive personality and behavioural characteristics that are sources of stimulation for some people (positively stressful) and aggravation or irritation for others (negatively stressful)” (p. 34). Positive stressors could lead to workplace social support whereas negative stressors relates to workplace interpersonal conflicts. Quick et al. (1997) examines five specific interpersonal stressors, having a positive or negative influence: status incongruity; social density; abrasive personalities; leadership style; team pressure; and diversity. These interpersonal stressors arise from demands and pressures of the social system relationships at work. Most research that has been done in this area is mainly focused on the supportive and beneficial aspects.

Employees receive social support from their co-workers or supervisors. Workplace social support consists of emotional support (sympathy and caring), instrumental support (giving tangible assistance) and structural support (availability of people who provide help) (Bowling, et al., 2004). Workplace social support helps employees buffer strains they experience and reduces the impact on family activities and responsibilities (Glavin & Schieman, 2010). Bowling et al (2004) argues that the principle of reciprocity (Gouldner, 1960) is an antecedent that explains why some people receive more social support than others. Employees who behave reciprocal to co-workers receive more social support from co-workers who supply social support than employees who do not behave in a reciprocal way. Workplace social support has many benefits for employees. It forms a buffer against psychological demands and stress related to work and spill over on the work family relation and creates a context to balance this relation. Workplace social support leads to lower levels of psychological strain, job stress and work-family conflict (Glavin & Schieman, 2010).

Interpersonal conflicts is argued as one of the most important stressors in the workplace. Interpersonal conflicts is conceptualized as a range of negative interpersonal experiences in the work role: resistance, conflict, undermining and hostile negotiation between co-workers, supervisors and clients/customers. Interpersonal conflicts are associated with a range of negative individual outcomes, containing physical symptoms, distress
and job dissatisfaction (Glavin & Schieman, 2010). Eventually, social stressors, or social isolation could occur (Dormann & Zapf, 2002). Peiró and Meliá (2003) argue that interpersonal conflict is related to formal and informal power, were informal power (personal resources) is associated with lower levels of conflicts than formal power (hierarchy).

The mediating effects of workplace interpersonal conflict
This study suggest that the relationship between job crafting and participation in HRD will be mediated by workplace interpersonal conflict. First this study looks at the relationship between job crafting and workplace interpersonal conflict. Crafting one’s job could lead to interpersonal conflicts due to high demands which lead to high workload and stress. First will be discussed the relationship between job crafting and workplace interpersonal conflicts. Tims, Bakker and Derks (2015) use the term shared work environment to emphasize that an employee crafting one’s job influences other employees’ jobs. When employees craft their job to reduce demands on their own initiative other employees report a higher workload and more stress. For both employees this is expected to lead to a conflict. In the light of the JD-R model a job crafting employee reduces his demands and increases his resources by shifting responsibilities and tasks (Demerouti & Bakker, 2014). However, these demands are still existing and have to be picked up by colleagues in the direct environment of the crafting employee. When this environment of the crafting employee perceives higher demands which are not in line with the resources, employees perceive higher levels workload and higher levels of interpersonal conflict (Tims, Bakker, & Derks, 2015).

H2: Job crafting has a positive effect on workplace interpersonal conflicts.

This study uses the social support theory (Rock & Garavan, 2011) to explain the relationship interpersonal conflicts has on participation in HRD. Employees experiencing interpersonal demands like abrasive personalities and learning to work with a diverse group of people experience higher levels of workload and stress (Morris, Messal, & Meriac, 2013). These higher levels of workload and stress most probably lead to interpersonal conflicts. Taking into account the lack of social support employees perceive it could be proposed that employees experience a lot of negative individual outcomes (Glavin & Schieman, 2010) which could decrease social support employees receive. Without the reduction in interpersonal anxiety which social support should accomplish employees can most probably not participate in strong and high quality developmental relationships as described by Rock and Garavan (2011). Social support, or the lack of, concerns a wide range of personal and career needs, which are fulfilled through reciprocal and mutual relationships. Hurtz and Williams (2009) strengthen this notion by suggesting employees act on their intentions to participate in HRD through subjective norms, in other words the influence of colleagues. Employees who experience conflict from their environment will hesitate to participate in HRD activities when they do not expect support.

When employees experience conflict from someone important to them their motivation to participate in HRD activities will decrease. When employees experience a disruption in their learning network due to stress or an hostile environment this influences their intention to participate in HRD. For example, an employee that experiences a conflict with his manager is more occupied with the conflict and less occupied with his career. With this in mind it is expected that the following hypothesis will be true:

H3: Workplace interpersonal conflicts has a negative effect on participation in HRD.
As mentioned before, interpersonal conflicts is associated with a range of negative individual outcomes (Glavin & Schieman, 2010). These negative outcomes could act as obstacles or inadequate resources as employees do not have adequate resources to engage in learning activities. According to JD-R employees build resources by crafting their job. When employees experience conflict this comes at the expense of the absence of adequate resources. This is further explained by SCT which clarifies how learning occurs through social context. When this social context is (partially) absent employees probably have less resources, time and energy, available to regulate one’s own behaviour in which learning occurs.

The mediating effect can as well be explained by figure 1. Workplace interpersonal conflicts alters the network structure, i.e. the relations among actors, which mediates the relationship between job crafting and participation in HRD. The participation of employees in HRD activities is influenced by interpretations employees have of the organizational structure. These interpretations are shaped by interpersonal conflict. This study proposes that employees who experience interpersonal conflict while crafting their job will have less participation in HRD activities.

Workplace interpersonal conflict is expected to be a mechanism that (partially) explains why job crafting and participation in HRD could be related.

H4: Workplace interpersonal conflicts will mediate the relation between Job crafting and participation in HRD.

The mediating effects of workplace social support
Workplace social support is expected to mediate the relationship between job crafting and participation in HRD. First the relationship between job crafting and workplace social support will be emphasized.

In general, employees that act on their own behalf, not in the shared work environment, reduce own demands and create higher demands for their environment according to JD-R. These higher demands for the environment are not in line with the resources which may lead to higher workload and stress and subsequently to conflicts (Tims, Bakker, & Derks, 2015). Because employees will not perceive this crafting behaviour as reciprocal, based on the reciprocal principle (Gouldner, 1960), this will influence the amount of social support the crafting employee receives. Colleagues of the crafting employee perceive very little social support, so they will provide an equal amount of social support in return. Expected is that job crafting has a negative effect on workplace social support.

H5: Job crafting has a negative effect on workplace social support

The following relationship explained is between workplace social support and participation in HRD. Employees that receive social support grow more self-esteem and self-efficacy beliefs, based on the social support theory (Rock & Garavan, 2011). This theory explains how personal and career needs are fulfilled through mentoring and developmental relationships. Subsequently these self-esteem and self-efficacy beliefs lead to less interpersonal anxiety and more capacity to participate in strong and high quality developmental relationships (Rock & Garavan, 2011). These employees are also more likely to contribute to ‘agentic capital enhancement’ (Singh, Ragins, & Tharenou, 2009), “this concerns an individual’s proactive engagement in planned, motivated, and purposeful behaviours that enhance the achievement of career goals” (Rock & Garavan, 2011, p. 113). These developmental relationships and engagement in planned, motivated and purposeful behaviours are types of
developmental activities that employees engage in according to Noe et al. (1997) and lead to participation in HRD activities. So, when employees perceive social support from their environment their self-esteem and self-efficacy leads to more participation in HRD activities through less interpersonal anxiety and more capacity in shaping their learning network. This leads to the following hypothesis:

**H6:** Workplace social support has a positive effect on participation in HRD

The mediating effect can be explained by figure 1. Workplace social support alters the relations among actors, i.e. the network structure, in the relationship between job crafting and workplace social support. How this happens is explained below. This study proposes that employees who perceive social support while crafting their job will participate more in HRD activities. As noted before, workplace social support forms a buffer against psychological demands and stress. According to JD-R employees construct resources, time and energy, while crafting their job. When employees experience social support, SCT explains how these personal and environmental factors lead to the regulation of one’s behaviour and thus a learning effect. This leads to participation in HRD activities.

Furthermore, a determinant of participation in HRD, perceived subjective norms (expected support), causes that workplace social support is expected to have a positive influence as a mediator (Hurtz & Williams, 2009). When employees perceive support from manager or colleagues in the process of altering the network structure, they could be more eager to participate in HRD. For example, when employees receive social support from their managers this leads to positive outcomes.

Workplace social support could be a mechanism that (partially) explains why job crafting and participation in HRD could be related. This leads to the following hypothesis.

**H7:** Workplace social support will mediate the relation between Job crafting and participation in HRD.
Methods

Research set up
This study is conducted as an explanatory study. Explained is the relationship between job crafting and employee HRD processes, mediated by interpersonal conflicts and interpersonal support. To examine this relationship a quantitative study is performed with data gathered by one round of questionnaires.

Procedure and sample
The data gathered in this study was collected by one student from Tilburg University, the Netherlands. A digital questionnaire was distributed among different individuals and at one large organization which sells vending machines (+/- 850 emp.) in the Netherlands. The questionnaire for the large organization was done separately to accommodate certain requests adduced by the large organization. However, the only part changed was the question regarding the name of the organization replaced by specific function in the large organization (QID14). Questionnaires took around 15 minutes to complete. Confidentiality was guaranteed with online questionnaires via Qualtrics where the data collection was only accessible by the researcher. Organization and individuals were contacted by e-mail, telephone or in person. Data gathering focussed on employees that participated in HRD activities. An introduction was provided with the questionnaire to explain the aim of the research, that participation was voluntary and entered data was treated confidential. Questionnaires were in Dutch.

After closing the data collection period, which remained for 2 months, the two data files were brought together yielding a total number of respondents counting N = 178. The data file was cleaned for missing values and inconsistencies like wrong entries in birth year (QID_12). Respondents who chose option three “otherwise” in contract type (QID_16), mostly entrepreneurs, were classified under the fixed option permanent or temporary contract.

Respondents who did not complete the questionnaire were removed from the survey, final sample counted N = 123. The data file was prepared by coding all the answers given. The mean age was 41.64 (SD = 11.23). A majority of the respondents work at the same company (N = 79). The majority of the respondents was male (65.9%). The majority of respondents (56.9%) finished a higher professional education or a scientific education, almost one third worked 1-3 years at their company and a relatively large share (19.5%) worked 18 years or more at their current employer. Most people were employed by a permanent contract (81.3%) in comparison by 17.9% of people with a temporary contract. Further information about characteristics of the respondents can be found in Table 1.

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Scientific education

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Measures

Four variables were used, each measured with their own instruments and items.

**Job crafting.** A scale created by Tims, Bakker and Derks (2012) is used to measure job crafting. Job crafting is divided in four dimensions – increasing structural job resources, decrease hindering job demands, increasing social job resources and increasing challenging job demands – which measure job crafting with 21 items. Items concerning *increasing structural job resources* include “I try to develop my capabilities.”. Items about *decreasing hindering job demands* include “I make sure that my work is mentally less intense.”. Items concerning *increasing social job resources* include “I ask my supervisor to coach me.”. Finally, items about *increasing challenging job demands* include “When an interesting project comes along, I offer myself proactively as project co-worker.” Items were answered with a 5-point frequency scale (1 = never, 5 = often).

A factor analysis was conducted on the scale to verify if all the items load on the same scale and alpha is evaluated to check the reliability of the scale. The job crafting scale was checked with factor analysis. Based on the theory an analysis with four factors was conducted. PCA revealed that all items loaded well on four factors which together explained 56% of the total variance. This solution is in accordance with Tims, Bakker and Derks (2012) suggesting a four factor solution which corresponded with the four dimensions of job crafting. First factor explained 29.46% with an Eigenvalue of 6.168. Second factor explained 13.53% of the variance with an Eigenvalue of 2.842. Third and fourth factor explained separately around 6.5% of the variance on average with Eigenvalues around 1.360 on average. Kaiser-Meyer-Olkin (KMO) value was .821 with a significant Bartlett’s Test of Sphericity (p < .001). Reliability analysis emphasized a substantial decrease in reliability caused by question 21, “I organize my work in such a way to make sure that I do not have to concentrate for too long a period at once”. Question 21 was therefore removed. The reliability showed a Cronbach’s Alpha of .867 which displays good internal consistency of the job crafting scale. Subscale increasing structural job resources displayed an Alpha of .735 and increasing social job resources showed an Alpha of .827. Increasing challenging job demands presented an Alpha of .798 and decreasing hindering job demands showed .769.
**Workplace interpersonal conflicts.** For this study workplace interpersonal conflict was measured with a scale from Glavin and Schieman (2010). This measure approached the theory most closely and has eight items. Two examples of questions are “Someone treated you unfairly” and “Someone blamed or criticized you for something that wasn’t your fault”. A 4-point rating scale is used (0 = never, 1 = rarely, 2 = sometimes, 3 = frequently). The factor analysis revealed a one factor solution with an Eigenvalue of 3.946 explaining 49.33% of the total variance. KMO value was .868 (p <.001). The reliability analysis produced a Cronbach’s Alpha of .851 which shows good internal consistency.

**Workplace social support.** This study uses the measurement of Glavin and Schieman (2010) with the following items: (1)“Someone listened to your ideas or opinions”, (2)“Someone thanked you for the work you do”, (3)“Someone gave you positive feedback and guidance” and (4)“Someone said or did something that made you feel pride in your work.” A 4-point rating scale is used (0 = never, 1 = rarely, 2 = sometimes, 3 = frequently). To keep this study feasible a relatively brief measure was chosen (limited number of items) instead of a long measure. Perceived support instead of received support is measured. A factor analysis offered a one factor solution explaining 65.54% of the variance with an Eigenvalue of 2.621. KMO value was .788 (p <.001). Cronbach’s Alpha was .851 which suggests good internal consistency.

**Participation in HRD.** Employee participation in HRD activities is measured with sixteen items that give an indication of someone’s participation in HRD activities by the study of Hurtz and Williams (2009). These HRD activities are divided in four dimensions - Employee assessment, on-the-job experiences, formal courses and programs and professional relationships - with every dimension consisting of four items. Items concerning **employee assessment** include “How often have you asked your supervisor or boss for feedback on your job related behaviours, performance, or skills?” Items about **on-the-job experiences** include “How often have you taken on work projects, assignments or tasks that required you to learn new knowledge or skills?” Items concerning **formal courses and programs** include “How many on- or off-site training course or workshops did you participate in, in order to improve or learn new knowledge or skills for your job?”. Items about **professional relationships** include “How often have you worked with a formal mentor or coach to help ‘show you the ropes’ and develop your job-related knowledge and skills?” (p. 638). Participants were asked to provide the frequency of participating in the activities on a 7-point scale (1 = one time per day through 7 = never) and a 7-point scale (1 = very limited small extent through 7 = very large extent) was used for another set of items. KMO value was .782 (p <.001). A one factor solution was used with an Eigenvalue of 4.423 explaining 29.49% of the variance. Reliability, as measured with Cronbach’s Alpha was .821 with item 7 (QID_7), ‘How much have you participated in a change of function (due to transfer or promotion) which made it necessary to learn new knowledge or apply current knowledge in a new manner’, deleted to remain good internal consistency. The researcher took into account that it would be more logical, according to the theory, to use a four factor solution regarding this scale. However, the absence of a solid foundation and disputable item loadings makes that a one factor solution seems like the most reliable solution. This was confirmed by performing reliability analysis on the four separate scales (excluding QID_7) which generated Crohnbach’s Alphas around or below .7.
As the one factor solution generated an Alpha of .821 this was a preferred choice, in accordance with Palant (2013, p. 104). A one factor solution was also confirmed by analyzing KMO values which deemed a one factor solution superior to a four factor solution.

Control variables
Control variables were used to rule out the possibility that relations and effects that were extracted from the dataset were not caused by other variables than the variables used. Control variables used were age, gender, contract type and job tenure. Age is expected to influence participation in HRD because it is related to the involvement of employees in learning and development (Maurer, Weiss, & Barbeite, 2003). Gender also influences participation in HRD because women’s career clocks differ from men (Tharenou, 1997). Job tenure and contract type were included because they influence the manner in which developmental activities are offered to employees (Kotey & Folker, 2007). One item is used to measure age, the respondent could fill out his date of birth. Gender is measured as dichotomous items were employees could choose between male or female. Contract type is measured as one item, containing: permanent; temporary; temporary by employment agency; none of these options. Job tenure is measured in a single item containing less than 6 months, 6 months-1 year, 1-3 years, 4-8 years, 9-13 years, 14-17 years and 18 years or more.

All control variables were entered separately in the analysis. They were analysed by means of relevant change in the correlation coefficient which measures the strength of the total model (R) in relation with outcome variable participation in HRD. In none of the control variables was a notable deviation detected in R from the model without controls. To keep the number of control variables small in relation to the number of model variables two control variables were chosen. The choice was based on the strength of the total correlation (R) with control variables. The two highest measuring total model strengths were contract type (R = .7, p < .001) and job tenure (R = .703, p < .001).

Statistical analysis
The software used concerned SPSS (version 22). Principal Component Analysis (PCA) was used to check the validity of the scales. Reliability was checked with a reliability analysis. Preliminary analysis was used to check violations on assumptions of normality, linearity, homoscedasticity and multicollinearity. A multiple regression analysis was executed to test if the hypotheses were rejected or accepted. This study uses the method of Hayes (2013) and runs the regression through the process model provided by Hayes. At last a t-test was used to see if there was a difference between the two groups.

Results

Preliminary analysis
Preliminary analysis were executed to check violations of assumptions of normality, linearity and homoscedasticity. The assumption of multicollinearity was ruled out because the Tolerance value and the Variance Inflation Factor (VIF) do not give notable results. Lowest tolerance value was .785 and highest VIF value was 1.275 for belonging to crafting. Outliers, normality and homoscedasticity were checked with the Normal P-P Plot and the Scatterplot. The first one indicated that the points situated in “a reasonably straight diagonal line from bottom left to top right” (Palant, 2013, p. 164). The Scatterplot indicated roughly rectangular
distributed residuals. No outliers were detected. Possibly a suppression could influence the effect between the mediating variable workplace interpersonal conflict or workplace social support and the direct relationship between job crafting and participation in HRD because opposite effects were expected. To identify the true nature of the relationship this study will statistically control for workplace interpersonal conflict to see the true strength of the H1 hypothesis.

As being measured with interval level, Pearson’s correlation analysis was used to analyse the correlations between the variables job crafting (JC), conflict (CON), support (SUP) and participation in HRD (PHRD) and the control variables tenure and contract. Dimensions of job crafting were included: Increasing structural job resources (InStrucJR); Increasing social job resources (InSocialJR); Increasing challenging job demands (InChallenJD); Decreasing hindering job demands (DeHinderJD).

As can be seen in the table above several significant correlations were found between the variables entered. Job crafting correlates significantly with all relevant variables in the model. The mediators conflict \( (r = .221, p < .05) \) and support \( (r = .404, p < .01) \) show low values as in contrary to participation in HRD \( (r = .595, p < .01) \) which displays a medium correlation as combined with job crafting. The relationship to participation in HRD activities are highest with support \( (r = .509, p < .01) \) and lowest with conflict \( (r = .250, p < .01) \). There is an insignificant correlation between the two mediating variables, support and conflict \( (r = -.018) \). The control variable tenure correlates with job crafting \( (r = .193, p < .05) \) and participation in HRD \( (r = -.268, p < .01) \) and barely with conflict and support. The control variable contract type correlates with participation in HRD \( (r = -.291, p < .01) \) and tenure \( (r = -.562, p < .01) \).

As for the dimensions of job crafting the following stands out. The dimensions of job crafting show strong correlations with the variable job crafting (Lowest \( r = .783, p < .01 \) ) with the exception of decreasing hindering demands \( (r = .181, p < .05) \). Increasing social job resources is the only dimension which displays a

<p>| Table 2 |
|<strong>Means, standard deviation and correlations</strong> |</p>
<table>
<thead>
<tr>
<th><strong>M</strong></th>
<th><strong>SD</strong></th>
<th><strong>1.</strong></th>
<th><strong>2.</strong></th>
<th><strong>3.</strong></th>
<th><strong>4.</strong></th>
<th><strong>5.</strong></th>
<th><strong>6.</strong></th>
<th><strong>7.</strong></th>
<th><strong>8.</strong></th>
<th><strong>9.</strong></th>
<th><strong>10.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. JC</td>
<td>2.75</td>
<td>.519</td>
<td>.221</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. CON</td>
<td>2.07</td>
<td>.618</td>
<td>.404 **</td>
<td>-.018</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3. SUP</td>
<td>3.07</td>
<td>.610</td>
<td>.595 **</td>
<td>.250 **</td>
<td>.509 **</td>
<td>1</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>4. PHRD</td>
<td>2.88</td>
<td>.839</td>
<td>-.015</td>
<td>-.070</td>
<td>-.268 **</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5. Tenure (c)</td>
<td>4.18</td>
<td>1.824</td>
<td>.193 *</td>
<td>-.075</td>
<td>-.291 **</td>
<td>-.562 **</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Contract (c)</td>
<td>1.20</td>
<td>.418</td>
<td>.163</td>
<td>-.132</td>
<td>-.075</td>
<td>-.291 **</td>
<td>-.562 **</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. InStrucJR</td>
<td>3.65</td>
<td>.630</td>
<td>.783 **</td>
<td>.002</td>
<td>.337 **</td>
<td>.486 **</td>
<td>-.047</td>
<td>.079</td>
<td>1</td>
<td>.567</td>
<td>.621</td>
</tr>
<tr>
<td>8. InSocialJR</td>
<td>2.42</td>
<td>.772</td>
<td>.844 **</td>
<td>.185 *</td>
<td>.487 **</td>
<td>.574 **</td>
<td>-.282 **</td>
<td>.285</td>
<td>.567</td>
<td>1</td>
<td>.601</td>
</tr>
<tr>
<td>9. InChallenJD</td>
<td>2.99</td>
<td>.827</td>
<td>.819 **</td>
<td>.176</td>
<td>.256 **</td>
<td>.495 **</td>
<td>-.124</td>
<td>.080</td>
<td>.621</td>
<td>.601</td>
<td>1</td>
</tr>
<tr>
<td>10. DeHinderJD</td>
<td>2.03</td>
<td>1.690</td>
<td>.181 *</td>
<td>.073</td>
<td>.015</td>
<td>.161</td>
<td>-.040</td>
<td>-.035</td>
<td>-.005</td>
<td>.081</td>
<td>-.035</td>
</tr>
</tbody>
</table>

Note: **p < 0.01, *p < 0.05 (2-tailed)**
significant effect on conflict ($r = .185, p < .05$). Increasing structural job resources ($r = .337, p < .01$), increasing social job resources ($r = .487, p < .01$) and increasing challenging job resources ($r = .256, p < .01$) all show a significant effect on support except for decreasing hindering job demands which shows no significant effect on support. The same applies for participation in HRD on which the dimensions increasing structural job resources ($r = .486, p < .01$), increasing social job resources ($r = .574, p < .01$) and increasing challenging job resources ($r = .495, p < .01$) show an effect. All dimension correlate significantly with each other except for decreasing hindering job demands.

A independent-samples t-test was performed to see if there was a difference between the two groups, to be more specific, employees from the company selling vending machines (group 1) in comparison with the rest of the sample, or others (group 2). There was a significant difference for job crafting in the scores for group 2 ($M = 3.08, SD = .40$) and group 1 ($M = 2.55, SD = .48$; $t(121) = 6.14, p = .001$, two tailed). Conflict showed no significant difference in the scores for group 2 ($M = 2.16, SD = .63$) and group 1 ($M = 2.02, SD = .61$; $t(120) = 1.20, p = .233$, two tailed). Support exhibited a significant difference in the scores for group 2 ($M = 3.4, SD = .46$) and group 1 ($M = 2.88, SD = .61$; $t(121) = 5.04, p = .001$, two tailed). Participation in HRD showed also a significant difference between group 2 ($M = 3.37, SD = .74$) and group 1 ($M = 2.59, SD = .76$; $t(121) = 5.57, p = .001$, two tailed).

Regression analysis
A multiple regression analysis with the process macro (model 4) of Hayes (2013) was executed to test the hypotheses of this study. The complete output of the Hayes process macro can be found in Appendix 2. All variables were entered together in one model. Entering multiple mediators was done according to Preacher and Hayes (2008) describing models with multiple mediators. Control variables were entered separately.

Firstly this study looked at the X variable predicting Y. Job crafting (X) shows a significant effect on Y-variable participation in HRD ($β = .595, p < .001$). Hypothesis 1, stating that job crafting has a positive effect on participation in HRD, is therefore accepted. For every 1 increase in job crafting, participation in HRD increases with .595.

Secondly the effect of the X variable on the mediators (M1 and M2) is looked at. As can be seen in figure 3, job crafting shows a significant effect on M1-variable conflict ($β = .22, p < .05$), as well on M2-variable support ($β = .405, p < .001$). So, for every 1 increase in job crafting, conflict increased with .22 and support increased with .405. Hypothesis 2, stating job crafting has a positive effect on interpersonal conflicts, was accepted. Hypothesis 5, a negative effect from job crafting to workplace social support, was rejected.

Thirdly, X and M1 and M2 together predicting Y. Conflict ($β = .164, p < .05$) and support ($β = .342, p < .001$) have a significant effect on participation in HRD while the direct effect of job crafting on participation in HRD ($β = .421, p < .001$) is lessened but still significant. For every 1 increase in conflict participation in HRD increased with .164. For every one increase in support participation in HRD increased with .342. Hypothesis 3, describing a negative effect between conflict and participation in HRD, is rejected. Hypothesis 6, describing a positive effect between support and participation in HRD, is accepted.

At last is looked if the direct effect was mediated by conflict and support. Conflict ($β = .036$) shows no significant effect. Hypothesis 4, stating conflict will mediate the relationship between job crafting and
participation in HRD, is therefore rejected. Support ($\beta = .138$, $p < .01$) displays a significant effect as mediator. Hypothesis 7, social support will mediate the relation between job crafting and participation in HRD, is accepted. The control variables contract type and tenure were entered in the model and did have a significant effect ($p < .05$) on participation in HRD as proposed by the theory from Kotey and Folker (2007).

![Diagram](image)

**Figure 3.** Research findings of the tested model.

Note: ***$p < .001$, **$p < .01$, *$p < .05$

Parallel to the multiple regression assessing the relationships between the variables a second regression analysis was progressed with the four dimensions of job crafting instead of job crafting as one concept. The results of this regression are visible in figure 4. As can be seen in figure 4 some notable excesses can be found. Increasing structural job resources shows no significant effect on workplace interpersonal conflicts ($\beta = .002$) compared to the original model. An increase shows in the relationship between workplace interpersonal conflicts and participation in HRD ($\beta = .216$, $p < .001$). The dimension increasing social job resources and increasing challenging job demands did not bring forward anything notable. On the contrary, decreasing hindering job demands has substantially lower and insignificant effects on workplace interpersonal conflict ($\beta = .015$) and workplace social support ($\beta = .014$). The mediator social support ($\beta = .006$) was not significant in this set of variables. The direct effect from decreasing hindering job demands to participation in HRD ($\beta = .113$) were not significant. An increase in effect can be found between workplace social support and participation in HRD ($\beta = .429$, $p < .001$). Overall, effects were less strong as in the original model.
Conclusion and discussion

The aim of this study was to disclose if workplace job crafting shows effect on participation in HRD and how this effect is mediated by workplace social support or workplace interpersonal conflicts. To investigate this relation the following research question (RQ) was composed: to what extent does job crafting influence participation in HRD and to what extent is this relation mediated by interpersonal relations. To track down the answer to this question an online survey was utilized with N = 123 valid respondents. The research findings of the current study show how job crafting produced a positive effect toward participation in HRD. The mediating variable workplace social support was significant while workplace interpersonal conflicts did not show a significant effect. The links between all variables were significant. A more thorough explanation of these results will be elaborated on below.

First, job crafting generates a positive result on participation in HRD activities, was supported by the data of this study and according to the theory. When employees craft their job their participation in HRD activities increases significantly. This result integrates job crafting with the LNT as employees change the structure of the primary work process (fig. 1) while crafting. This modification of the structure affects the interpretations employees have of the organizational structure and changes their intentions to participate in HRD activities. This result further supports the Job Demands-Resources model (JD-R) and the Social Cognitive Theory (SCT) as explanation for the relationship between job crafting and participation in HRD (Heuvel et al., 2000).
Employees could experience obstacles or lack resources to act on their intentions to participate in HRD activities (Hurtz & Williams, 2009).

Second, a positive effect from job crafting to interpersonal conflicts, was also supported by the conceptual model. This supports the term ‘shared work environment’ Tims et al. (2015) put forward. A shared work environment describes the influence of job crafting on the environment of the crafting employee. In line with Tims et al. (2015), higher levels of interpersonal conflicts are experienced when the environment of the crafting employee perceives higher demands which are not in line with the existing resources. Interpersonal conflict, as caused by job crafting, could be identified as one of the most important stressors in the workplace (Glavin & Schieman, 2010). Seen in the wider context of the LNT it becomes increasingly apparent why change in responsibilities and tasks, initiated by a single crafter, creates irregularities in the learning network. These irregularities indicate a shift in the extent of relationships employees perceive as higher interpersonal conflict influences the learning network. These irregularities, as caused by interpersonal conflict, could be a breeding ground for physical symptoms, distress and job dissatisfaction (Glavin & Schieman, 2010).

Third, workplace interpersonal conflict has a negative effect on participation in HRD. However, the model did not confirm this. A negative effect was expected on the basis of the theory. However, the effect was significant and positive. This is not in line with the theory which claims that stress, caused by interpersonal conflicts, influences participation in HRD in a negative way through perceived subjective norms (Hurtz & Williams, 2009). Possible explanations for the found positive result between interpersonal conflict and participation in HRD can be found with the Positive Approaches to Conflict (Wilmot & Hocker, 2001) in which conflict is adduced among other things as a means of “... bringing problems to the table”, “... helps people join together and clarify their goals” and “... clear out resentments and help people understand each other” (p. 14). Conflicts can be changed from harmful to productive cases and subsequently seen as constructive conflicts. These advantages and approaches show affinity with developmental behaviour and close resemblance with on the job experiences as imbedded in employee development activities from Noe et al. (1997). Conflict is seen as helpful in the development of healthy work relationships and therefore explains the positive effect on participation in HRD. This thought is strengthened by Van de Vliert (Vliert, 1997) who describes conflict as processing issues, developing goal concerns, overcoming choices and producing (de)escalation. These approaches resemble a learning process for the employees who have to deal with interpersonal conflict.

Fourth, a mediating effect from workplace interpersonal conflicts between job crafting and participation in HRD, was also not proven by the conceptual model. This could be caused by relatively weak correlations between job crafting, workplace interpersonal conflicts and participation in HRD. Therefore the mediation effect did not have enough influence as a mediating variable. Rahim (2001) could clarify why workplace interpersonal conflict did not influence intentions of actors to participate in HRD activities, as formulated in figure 1. “Existing conflict resolution strategies emphasize negotiation or bargaining, mediation, and arbitration, which are designed to deal with conflict within the existing structure and processes of an organization. In other words, these strategies do not involve significant changes in the functioning of the organizations” (p. 65). Existing conflict resolution approaches are not sufficient for generating learning through changing behaviour. To harvest effect conflict should change underlying policies, assumptions, goals and create changes outside the existing paradigm. Intervening in interpersonal conflict with contemporary interventions does most probably not change the existing structure of the organization, i.e. relations among actors, nor the interpretations the employees
possesses of this structure. Without any change in the structure of the organization employees do most likely not change their interpretation regarding participation in HRD. When job crafting generates conflict, the conflict resolution by the company, or by the employee himself, does most probably not cause any change in behaviour. The status quo is maintained because underlying policies, goals and assumptions are not altered, which does not lead to any significant development in the behaviour of the employee.

Fifth, a negative effect from job crafting to workplace social support, was also rejected by the data. Theory stated that crafting one’s job creates higher demands for their environment which leads to higher workload and stress according to Tims et al. (2015). However, if employees craft their jobs in a shared work environment, yet taking into account others on a large or basic level, this could lead to a positive effect which explains the contradicting result. Tims et al. (2015) emphasize that individuals should first reach agreement before adjustments on the job are made. When employees perceive the crafting as reciprocal (Gouldner, 1960), this will most probably influence the amount of social support given. The positive effect could also be explained by the effect job crafting has on individuals. As said before employees craft their jobs to avoid negative consequences, enable a more positive self image and foster connection with others. Employees also seek support in the form of feedback and social support while seeking job resources while crafting their job according to Demerouti and Bakker (2014). These crafting behaviours relate to positive interaction with other employees in providing and/or receiving social support. So, employees who craft their jobs most likely provide a positive effect on social support.

Sixth, a positive relationship between workplace social support and participation in HRD was accepted by the conceptual model. This strengthens the social support theory of Rock and Garavan (2011) which explained how developmental relationships fulfil personal and career needs through less interpersonal anxiety and more capacity to participate in strong and high quality relationships. This social support theory interfaces with the LNT by emphasizing learning as a social and organizational process were actors shape their development by using an extensive network. This also strengthens the agentic capital enhancement theory as adduced by Singh et al. (2009) and described by Rock and Garavan (2011). Agentic capital enhancement theory explains the creation of proactive engagement in planned, motivated and purposeful behaviours which enhances the achievement of developmental goals. Taking into account Noé et al. (1997), this study supports social support as an amplifier leading to more self-esteem and self-efficacy which leads in turn to more participation in HRD through less interpersonal anxiety and more capacity in shaping their learning network.

Seventh, describing a mediating effect of workplace social support on the relationship job crafting and participation in HRD, was accepted. However, instead of the expected positive and negative relations (H5 + H6) supporting this claim, both relations were positive which could have strengthened hypothesis 7. JD-R and SCT could be seen as an explanation why social support mediates the relationship appointed. By building more job resources employees use personal and environmental resources to engage in learning activities. The result supports the claim of Hurtz and Williams (2009), which conveys about perceived subjective norms, in other words expected support, causing employees to participate in HRD activities. Finally, this mediation strengthens the Learning Network Theory (LNT) by Poel and Van der Krogt (in press), as this study applies a network perspective. The LNT conveys about actors using a relational network for their development, through increased focus on relationships. This result suggests that workplace social support alters the network structure of the organization as a result of crafting employees, according to the LNT, and increases the intentions of employees
to participate in HRD activities. It supports the idea that learning cannot be seen as an individual affair but has to be seen as a social and organizational process in which a network is used to shape individual development.

At last an additional analysis was conducted which included the four different dimensions of HRD. Decreasing hindering job demands has the notable effect of lowering several relationships of the model. Decreasing hindering job demands has nullified the significant effect on participation in HRD as participation in HRD activities can be seen as emotional, physical and mental demanding factors (Tims et al., 2013b; Tims et al., 2015). Decreasing hindering job demands also shows no significant effect on the mediators interpersonal conflict and social support. While decreasing hindering demands no effect can be found regarding relational factors. Most probably employees who are decreasing hindering demands do not have to take into account others.

All in all it can be provided that job crafting has a significant effect on participation in HRD activities and is influenced significantly by workplace social support. Workplace interpersonal conflicts did not influence the relationship between job crafting and participation in HRD.

Limitations

Certain limitations should be taken into account when examining this study.

The scale participation in HRD responded doubtful in assigning items to factors. Items which should create one factor correlated more with other factors. Overall the scale provided reliable outcomes using one factor solution but it is evident that it needs further studying. However, the scale was still used in this study because it was used and validated before in earlier studies. See the recommendations for more concrete instructions.

From 178 respondents who started the questionnaire 123 finished it completely. 30% did not finish the questionnaire which could be seen as a fair amount. A decent condition and designated time for the participants to fill out the questionnaire was absent which could explain the large amount unfinished questionnaires. In the absence of a proper condition to fill out the questionnaire respondents could have been distracted which influenced their ability to reflect on questions proposed.

Data for this study was collected at one period of the time and therefore a causal conclusion should be drawn with caution. Study is classified as cross-sectional.

Recommendations for further research

Based on the results, conclusions and limitations this study presents several recommendations for further research.

Some improvement could be made to the scale which measured participation in HRD activities to create an even more reliable and valid instrument. Improvement can be achieved by adjusting several statements and response categories. The response categories and the manner of asking questions is found to be very heterogeneous. This is concluded from the fact that most questions would not load on the scale which they were intended for. An example of this statement is QID 7 which was suddenly different from other questions due to a different manner of response categories combined with a deviated way of asking a question. Therefore the
reliability of the whole questionnaire was influenced. It is the belief of the researcher that if the scale looks more uniform the trustworthiness will increase.

Interpersonal conflict, as it was not significant and bared no relevant effect as mediator, should be investigated in the future to keep a critical view on the subject. As shown by the literature review, workplace interpersonal conflict should have an effect by acting as a negative stressor according to Quick et al. (1997). Using the TPB (Ajzen, 1991) these negative outcomes and inadequate resources generated by interpersonal conflict hold potential to discover other effects in compliance with the LNT. Future studies could investigate the role of interpersonal conflict in the learning network with a different set, or different distribution of variables. This study suggests a focus on the HRD structure as described in figure 1 including content structure, organizational structure or HRD network and HRD climate. Regarding HRD structure it would be interesting to research if workplace interpersonal conflicts plays different roles in different HRD structures like vertical, horizontal, external and/or loosely coupled HRD structures. These structures provide different methods of interactions between employees and content. More loose HRD structures could generate a different effect on workplace interpersonal conflict in contrary to very vast structures. One would expect more conflict in horizontal structures because employees perceive less control while participating in HRD activities as opposed to horizontal structures. For further deepening of this subject this study refers to the study by Poel and Van Der Krogt (in press).

This research focussed particularly on job crafting in a general way. However, it did not became clear if employees took into account others or did their crafting in solitude. Especially for the learning network and participation in HRD it could be interesting to investigate the extent to which employees take into account others, conscious and unconscious, while crafting their job. An experimental design could be very helpful for finding out the degree of conscious, and unconscious job crafting employees are displaying. Thereby, it seems important to measure what the most important sources are of conflict and social support while crafting. Employees should perform their duties in a controlled environment while experiencing triggers which encourage social support or conflict. Employees can self-report which can be combined with reports of observers. This may reveal from which source, manager or colleague, employees experience the most conflict and/or support. It could be suggested that if managers would not support job crafting, conflicts would arise. It is surely interesting to find out which roles, managers, HRD-practitioners and colleagues play in providing support and conflict.

As this study only chose a sample from the Netherlands it would be interesting to study the differences and similarities between countries to get more insight in how job crafting is developed in different countries. The result of this study suggest relationships with social support as significant mediator. This result could be different in more individualistic countries like the United States were conflict could bear a more important role in the proposed relationship.

As this study suggests job crafting works better when employees experience social support, it would be interesting to investigate if team job crafting, as proposed by Tims et al. (2013b), influences the participation in HRD activities in a team. Team job crafting is the combined effort in which team members increase structural and social job resources, challenging job demands and decrease hindering job demands. Team members decide together which goals they set and which job resources they need to accomplish and ensure that these resources are mobilized (Tims et al., 2013). As the study of Tims et al. (2013) shows, employees who craft together are more likely to also craft individually. The question one could ask is if team job crafting is also influenced by
workplace social support or workplace interpersonal conflict. Conflicts or support could show different effects on the relationship between job crafting and participation in HRD because job crafting is more known as an individual affair. Furthermore, these teams should also benefit from participation in HRD. Just like individuals crafting their job it could be that teams also show more intention to participate in HRD. The input of conflict and support variables could elucidate if teams experience much effect from supportive measures or conflicting issues.

Theoretical and practical implications

This study sought to support the LNT by Poell and Van der Krogt (in press; 2000; 1998) in which it succeeded. This study contributes by involving job crafting into the LNT and showed the effect it has on participation in HRD activities while involving relational variables. It strengthens the notion of employees changing their interpretations of the organizational structure through job crafting and social support.

Employing job crafting practices activate employees to reflect, and create awareness, on their personal developmental opportunities. So, promoting job crafting on the workplace increases the participation in HRD activities. As noted sometimes before, it is important to let employees craft and providing them with social support to trigger the effect. If job crafting is not executed properly, it creates heaves in the learning network of employees. The LNT points out that learning is a more social and organizational process were actors use an extensive network in shaping their development. As this study shows, job crafting thrives best when employees receive social support in this learning network.

Employees crafting their job should take into account the shared work environment. This means employees have to take into account others while crafting their jobs. This leads to more social support from other employees and benefits the participation in HRD. Conscious job crafting is important to make job crafting a success. Without taking into account others job crafting leads to more demands for others which is not desirable.

Furthermore employees should realize they can also learn from conflict. Not only should employees solve existing conflict but they should also change underlying policies, goals and assumptions in the process. Organizations should support this by introducing the so called double loop learning intervention which facilitates employees to think outside the existing system and encourage employees to change these underlying policies, goals and assumptions.

Literature


Appendix 1

Default Question Block

Onderzoek naar de ontwikkeling en relaties van medewerkers

In deze vragenlijst krijgt u een aantal vragen over uw deelname aan verschillende ontwikkelingsactiviteiten en over positieve en negatieve relaties die u ervaart op uw werk. Geef eerlijke en oprechte antwoorden op deze vragen. Er zijn geen goeie of foute antwoorden.

Antwoorden worden volledig anoniem verwerkt. Mocht u vragen of opmerkingen hebben aangaande de enquête dan kunt u contact opnemen via de e-mail op info@ontwikkelingmedewerkers.nl. Het onderzoek vindt plaats onder begeleiding van prof.dr. Rob Poell, hoogleraar HRD.

Kans maken op die 10-ijsjeskaart kan door aan het einde van de enquête uw e-mailadres achter te laten.

Alvast bedankt!

Geef hieronder aan wat voor u van toepassing is.

Wat is uw geslacht?

☐ Man
☐ Vrouw

Wat is uw geboortejaar?


Wat is uw hoogst afgeronde opleiding?
○ Basisschool
○ Middelbare school (LBO, VMBO, MAVO, HAVO, VWO)
○ Middelbaar beroepsonderwijs (MBO)
○ Hoger beroepsonderwijs (HBO)
○ Wetenschappelijk onderwijs (WO)
○ Promotieonderzoek (PhD)
○ Anders, namelijk...

Wat is de naam van de organisatie waar u voor werkt?

Hoe lang werkt u bij uw huidige werkgever?
○ Minder dan 6 maanden
○ 6 maanden tot 1 jaar
○ 1-3 jaar
○ 4-8 jaar
○ 9-13 jaar
○ 14-17 jaar
○ 18 jaar of meer

Wat voor soort contract heeft u?
○ Vast dienstverband
○ Tijdelijk dienstverband
○ Tijdelijk via een uitzendbureau
○ Anders, namelijk...

De volgende uitspraken gaan over uw gedrag op het werk. Geef bij elke uitspraak aan in hoeverre u het ermee eens bent door steeds het best passende antwoord te selecteren.

Ik zorg ervoor dat ik mijn capaciteiten optimaal benut.  Nooit  Soms  Regelmatig  Vaak  Het vaa
<table>
<thead>
<tr>
<th>Ik zorg ervoor dat ik niet te veel hoef om te gaan met personen wier problemen mij emotioneel raken.</th>
<th>Nooit</th>
<th>Soms</th>
<th>Regelmatig</th>
<th>Vaak</th>
<th>Vaa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ik vraag collega's om advies.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik probeer mijzelf bij te scholen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Als er nieuwe ontwikkelingen zijn, sta ik vooraan om ze te horen en uit te proberen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik vraag of mijn leidinggevende tevreden is over mijn werk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik zelf kan beslissen hoe ik iets doe.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik minder moeilijke beslissingen in mijn werk hoef te nemen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik probeer nieuwe dingen te leren op mijn werk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik vraag anderen om feedback over mijn functioneren.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik minder emotioneel inspannend werk moet verrichten.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zoek inspiratie bij mijn leidinggevende</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik neem geregeld extra taken op me hoewel ik daar geen extra salaris voor ontvang.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik probeer mezelf te ontwikkelen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik niet te veel hoef om te gaan met mensen die onrealistische verwachtingen hebben.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Als het rustig is op mijn werk, zie ik dat als kans om nieuwe projecten op te starten.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik vraag mijn leidinggevende om mij te coachen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik minder geestelijk inspannend werk hoef te verrichten.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik probeer mijn werk wat zwaarder te maken door de onderliggende verbonden van de werkzaamheden in kaart te brengen.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Als er een interessant project voorbij komt, bied ik mezelf proactief aan als projectniedwerker.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ik zorg ervoor dat ik me niet lange tijd achter elkaar hoef te concentreren.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In welke mate bent u de afgelopen 30 dagen blootgesteld aan de volgende conflicten? Geef antwoord in de volgende categorieën: nooit; zeiden; soms; vaak.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iemand behandelde u niet eerlijk.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Iemand beschuldigde of bekritiseerde u voor iets wat niet uw schuld was.
Iemand verzaakte zijn werk goed uit te voeren of deed dit op een slordige of incompetentie manier.
Iemand ergerde zich aan u of werd boos op u.
Iemand roddelde over u of sprak achter uw rug over u.
Iemand plaagde of pest u.
Iemand gaf onduidelijke aanwijzingen over het werk dat u moest doen.
Iemand eiste te veel van u.

In welke mate bent u de afgelopen 30 dagen blootgesteld aan de volgende mentale ondersteuning? Geef antwoord in de volgende categorieën: nooit; zelden; soms; vaak.

Iemand luisterde naar uw ideeën of uw mening.
Iemand bedankte u voor het werk dat u doet.
Iemand gaf u positieve feedback en begeleiding.
Iemand zei of deed iets waardoor u zichzelf trots voelde over uw werk.

Hoe vaak heeft u ongeveer deelgenomen aan deze activiteit of ervaring in het afgelopen jaar?

Feedback gevraagd aan uw leidinggevende over uw werkgerelateerde gedrag, functioneren of vaardigheden?
Feedback gevraagd aan een collega of ondergeschikt op uw werkgerelateerde gedrag, functioneren of vaardigheden?
Feedback gevraagd aan uw cliënten of andere afnemers op uw werkgerelateerde gedrag, functioneren of vaardigheden?
Tijd besteed aan het serious overwegen van uw eigen sterke en zwakke punten als werknemer in uw functie?

- Nooit
- Een keer per jaar
- Een keer per half jaar
- Een keer per kwartaal
- Een keer per maand
- Een keer per week
- Een keer per maand

Hoe vaak heeft u ongeveer deelgenomen aan deze activiteit of ervaring in het afgelopen jaar?

<table>
<thead>
<tr>
<th>Projecten, opdrachten of taken op u genomen, waarbij het nodig was om nieuwe kennis of vaardigheden te leren?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nooit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opdrachten geruild met andere modewerkers, zodat u meer veelzijdiger en ervarer wordt in het uitvoeren van taken?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nooit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Uw functie uitgebreid door het opnemen van nieuwe verantwoordelijkheden, die niet eerder van u vereist werden?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nooit</td>
</tr>
</tbody>
</table>

Een verandering in functie (bijvoorbeeld door promotie of overplaatsing) waardoor het nodig was om nieuwe kennis/vaardigheden te leren, of uw huidige kennis/vaardigheden op een nieuwe manier toe te passen?

- Niet van toepassing in het afgelopen jaar.
- Een keer
- Twee keer
- Drie keer
- Vier keer
- Vijf keer
- Zes keer
- Zeven keer of meer

Hoe vaak heeft u ongeveer deelgenomen aan deze activiteit of ervaring in het afgelopen jaar?
Cursussen of workshops op of buiten de werkplek, om nieuwe kennis of vaardigheden voor uw werk op te doen of te verbeteren?

Officieel erkende opleidingen die relevant waren voor uw werk- of loopbaandoelen?

Vakgerelateerde congressen, studiebijeenkomsten of seminars bijgewoond die relevant waren voor uw werk- of loopbaandoelen?

Tijd doorgebracht met het lezen van boeken of tijdschriften, surfen op het internet, of het uitvoeren van soortgelijke activiteiten buien werktijd om op de hoogte te blijven of uzelf te ontwikkelen binnen uw vakgebied?

Hoe vaak heeft u ongeveer deelgenomen aan deze activiteit of ervaring in het afgelopen jaar?

Gewerkt met een formele mentor of coach die u de fijne knoopjes van het vak leerde en hielp uw werkgerelateerde kennis en vaardigheden te ontwikkelen?

Een meer ervaren werknemer gevraagd om kennis of procedures met u te delen, die zouden kunnen helpen om beter in uw werk te presteren?

Bij een leidinggevende of collega meegekeken om nieuwe kennis en vaardigheden gerelateerd aan uw werk op te doen?

Inspanningen gedaan via uw netwerk om mensen in de organisatie te ontmoeten die u kunnen helpen om uw werk- en loopbaangereleerde doelen te bereiken?
Bedankt voor het invullen! Wilt u meedienen voor de 10-ijsjeskaart? Vul dan hier uw e-mailadres in.
**Appendix 2**

****** PROCESS Procedure for SPSS Release 2.16.1 **************

Written by Andrew F. Hayes, Ph.D.  www.afhayes.com

---

Model = 4
Y = ZPHRD
X = ZJC
M1 = ZCON
M2 = ZSUP

Sample size
122

Outcome: ZCON

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>,221</td>
<td>,049</td>
<td>,959</td>
<td>6,166</td>
<td>1,000</td>
<td>120,000</td>
<td>,014</td>
</tr>
</tbody>
</table>

Model
- **constant**: -001, se = 0,089, t = ,010, p = ,992, LLCI = -176, ULCI = 175
- **ZJC**: ,220, se = 0,089, t = 2,483, p = ,014, LLCI = ,045, ULCI = 396

Outcome: ZSUP

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>,404</td>
<td>,163</td>
<td>,850</td>
<td>23,436</td>
<td>1,000</td>
<td>120,000</td>
<td>,000</td>
</tr>
</tbody>
</table>

Model
- **constant**: -001, se = 0,083, t = ,008, p = ,994, LLCI = -166, ULCI = 165
- **ZJC**: ,405, se = 0,084, t = 4,841, p = ,000, LLCI = 239, ULCI = 570

Outcome: ZPHRD

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>,682</td>
<td>,465</td>
<td>,552</td>
<td>34,219</td>
<td>3,000</td>
<td>118,000</td>
<td>,000</td>
</tr>
</tbody>
</table>

Model
- **constant**: ,001, se = 0,067, t = ,011, p = ,991, LLCI = -132, ULCI = 134
- **ZCON**: ,164, se = 0,070, t = 2,350, p = ,020, LLCI = 026, ULCI = 302
- **ZSUP**: ,342, se = 0,074, t = 4,612, p = ,000, LLCI = 195, ULCI = 489
- **ZJC**: ,421, se = 0,076, t = 5,535, p = ,000, LLCI = 270, ULCI = 571

TOTAL EFFECT MODEL

Outcome: ZPHRD

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

34
<table>
<thead>
<tr>
<th>Model</th>
<th>coeff</th>
<th>se</th>
<th>t</th>
<th>p</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>0.000</td>
<td>0.073</td>
<td>0.005</td>
<td>0.996</td>
<td>-1.145</td>
<td>1.146</td>
</tr>
<tr>
<td>ZJC</td>
<td>0.595</td>
<td>0.073</td>
<td>8.109</td>
<td>0.000</td>
<td>0.450</td>
<td>0.741</td>
</tr>
</tbody>
</table>

**TOTAL, DIRECT, AND INDIRECT EFFECTS**

Total effect of X on Y

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.595</td>
<td>0.073</td>
<td>8.109</td>
<td>0.000</td>
<td>0.450</td>
<td>0.741</td>
</tr>
</tbody>
</table>

Direct effect of X on Y

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.421</td>
<td>0.076</td>
<td>5.535</td>
<td>0.000</td>
<td>0.270</td>
<td>0.571</td>
</tr>
</tbody>
</table>

Indirect effect of X on Y

<table>
<thead>
<tr>
<th>Effect</th>
<th>Boot SE</th>
<th>BootLLCI</th>
<th>BootULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>0.174</td>
<td>0.111</td>
<td>0.259</td>
</tr>
<tr>
<td>ZCON</td>
<td>0.036</td>
<td>0.003</td>
<td>0.087</td>
</tr>
<tr>
<td>ZSUP</td>
<td>0.138</td>
<td>0.072</td>
<td>0.218</td>
</tr>
</tbody>
</table>