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Published in:
European Journal of Work and Organizational Psychology

DOI:
[10.1080/1359432X.2021.1899161](https://doi.org/10.1080/1359432X.2021.1899161)

Publication date:
2022

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Kooij, D. T. A. M., De Lange, A. H., & Van De Voorde, K. (2022). Stimulating job crafting behaviors of older workers: The influence of opportunity-enhancing human resource practices and psychological empowerment. *European Journal of Work and Organizational Psychology*, 31(1), 22-34.
<https://doi.org/10.1080/1359432X.2021.1899161>

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To cite this article: Dorien T.A.M. Kooij, Annet H. De Lange & Karina Van De Voorde (2022) Stimulating Job Crafting Behaviors of Older Workers: the Influence of Opportunity-Enhancing Human Resource Practices and Psychological Empowerment, European Journal of Work and Organizational Psychology, 31:1, 22-34, DOI: [10.1080/1359432X.2021.1899161](https://doi.org/10.1080/1359432X.2021.1899161)

To link to this article: <https://doi.org/10.1080/1359432X.2021.1899161>



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Published online: 20 May 2021.



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Stimulating Job Crafting Behaviors of Older Workers: the Influence of Opportunity-Enhancing Human Resource Practices and Psychological Empowerment

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ABSTRACT

Since job crafting behaviour is of profound importance for the retention of older workers, we examined how organizations can stimulate job crafting behaviour among older workers with opportunity-enhancing Human Resource (HR) practices. We introduced three job crafting behaviours: accommodative, utilization, and developmental job crafting. We hypothesized that opportunity-enhancing HR practices increase psychological empowerment among older workers and therefore their job crafting behaviour. We conducted a survey study with two waves among 125 Dutch older workers (65+) affiliated with a temporary employment agency aiming to employ older workers and found that changes in perceptions of opportunity-enhancing HR practices are positively related to changes in psychological empowerment and, in turn, to changes in utilization and developmental crafting behaviours. Unexpectedly, changes in psychological empowerment were not associated with changes in accommodative crafting and changes in opportunity-enhancing HR practices perceptions were not directly associated with changes in job crafting behaviour. With this study, we contribute to the literature on job crafting and human resource management by showing that opportunity-enhancing HR practices influence job crafting behaviour through psychological empowerment.

ARTICLE HISTORY

Received 13 August 2019
Accepted 1 March 2021

KEYWORDS

Older workers; job crafting; opportunity-enhancing HR practices; psychological empowerment

The labour market participation of the “oldest” older workers of 65 years and older has increased tremendously. For example, the labour market participation of Dutch oldest workers more than doubled from 2003 onwards (Central Bureau Statistics) and the labour market participation of US oldest workers is expected to almost double from 1996 to 2026 (U.S. Bureau of Labour Statistics). Since this group of older workers is likely to be dealing with age-related losses in personal resources which start to outnumber age-related gains, it is of utmost importance to understand how organizations can optimize the motivation and performance of this group (B. B. Baltes et al., 2014; Bal et al., 2015). Recently, researchers have pointed towards the benefits of job crafting behaviour for older workers (Kooij, 2015). Job crafting captures self-initiated changes individuals make in their job to improve their person-job fit (e.g., Wrzesniewski & Dutton, 2001). By crafting their job, older workers can continuously adjust their job to intrapersonal changes in personal resources that relate to the ageing process, helping them to stay motivated and productive (D. T. A. M. Kooij et al., 2015; Kooij, Zacher, Wang, & Heckhausen, 2020). In addition, continuous fit is important for older workers because it leads to the sustainable use of personal resources (Kooij, 2015); maintaining continuous fit means that workers fulfil present needs and optimally use current skills and knowledge without compromising the fulfilment and use of future needs, skills, and knowledge (De Lange et al., 2015). In line with this reasoning, numerous studies have demonstrated that job crafting has positive effects on a range of important job outcomes, such

as person-job fit, engagement, employability, and performance (e.g., Petrou et al., 2012; Tims et al., 2016).

Although job crafting behaviour is self-initiated by employees, Wrzesniewski and Dutton (2001) argued that organizations can trigger job crafting behaviour and called for future research on how organizational practices directly and indirectly encourage job crafting behaviour. Three recent empirical studies have revealed that HR practices can positively affect job crafting behaviours (Hu et al., 2020; Meijerink et al., 2018; Tuan, 2017). However, studies on whether and, in particular, on why HR practices influence job crafting behaviour are scarce (e.g., Tuan, 2017).

Therefore, using a survey study with two waves, we examine whether and through which process changes in perceptions of HR practices influence changes in job crafting behaviours among older post-retirement workers. Here, we focus on opportunity-enhancing HR practices, such as opportunities to participate in decision-making, information sharing, and broad and flexible job design. Since these HR practices function as environmental cues that signal to employees that they are allowed and even expected to get involved in work tasks, goal-setting, and decision-making (e.g., Chamberlin et al., 2018), we build on signalling theory (Casper & Harris, 2008) and social cognitive theory (Bandura, 1989; Bosma & Kunnen, 2001) and argue that this type of HR practices will trigger job crafting behaviour among older workers. In addition, we propose that psychological empowerment, which refers to a sense of control employees feel in relation to their work, will mediate the

relationship between opportunity-enhancing HR practices and job crafting behaviour. In line with Chamberlin et al. (2018), we argue that psychological empowerment is needed to transmit the effects of opportunity-enhancing HR practices to job crafting behaviour.

Finally, in this study, we build on D.T.A.M. Kooij et al. (2017; see also Kuijpers, Kooij & Van Woerkom, 2020) and we conceptualize job crafting in terms of adjusting the job to personal resources such as employees' interests, abilities, knowledge, and growth potential over the lifespan (Wrzesniewski et al., 2013). Adjusting the job to (changing) personal resources is crucial for older workers because they increasingly have to deal with age-related changes in the availability of these resources (Baltes, 1997). In addition, older workers have gained more insights in their personal resources (Caspi et al., 2005). However, the current job crafting literature predominantly frames job crafting in terms of the changes that employees make in either their tasks, relations, and cognitions at work or their job demands and job resources (e.g., Lichtenthaler & Fischbach, 2019; Slemp & Vella-Brodrick, 2013; Tims et al., 2012; Zhang & Parker, 2019), and hence does not properly take the uniqueness of older workers into account (Wong & Tetrick, 2017). Therefore, we build on three prominent goals of lifespan development (i.e., growth, maintenance, and regulation of loss) to which individuals allocate their personal resources as distinguished in the literature on lifespan psychology (e.g., P.B. Baltes et al., 1999) to distinguish three job crafting behaviours that are more relevant for older workers: accommodative crafting aimed at accommodating or regulating losses in personal resources, utilization crafting aimed at utilizing current personal resources to compensate for losses in other personal resources, and developmental crafting aimed at optimizing personal resources by realizing ones growth potential (Kuijpers et al., 2020; D. T. A. M. Kooij et al., 2015).

With this study, we contribute to the literature on job crafting by answering Wrzesniewski and Dutton (2001, p. 196) call to examine how organizational factors "directly and indirectly encourage or discourage important job modifications". More particularly, we propose that opportunity-enhancing HR practices which stimulate flexibility and involvement among older workers will increase their psychological empowerment and thus their job crafting behaviour. In doing so, we also add to the literature on human resource management by showing that opportunity-enhancing HR practices function as environmental cues that communicate to older workers that they are allowed and even expected to be involved in working tasks, goal-setting, and decision-making which has beneficial effects for these older workers in terms of psychological empowerment and job crafting. Since we know that job crafting behaviour leads to performance outcomes (e.g., Tims et al., 2016), we also extend prior research on the relationships between opportunity-enhancing HR practices, psychological empowerment, and job performance by offering a behavioural explanation which complements the psychological explanation offered by previous work that argued that psychologically empowered employees take a more active *orientation* towards their work (e.g., Seibert et al., 2011). Finally, we also add to the literature on job crafting by examining job crafting in terms of adjusting the job to personal resources such as employees' interests,

abilities, knowledge and growth potential which is more suitable among older workers. Building on the lifespan goals distinguished in lifespan psychology literature (e.g., P.B. Baltes et al., 1999) we introduce and validate a scale to measure three job crafting behaviours: i.e., accommodative, utilization, and developmental crafting.

Job crafting behaviour among older workers

Job crafting captures self-initiated changes employees make in the task or relational boundaries of their job to improve its fit with their changing personal needs and abilities (Tims et al., 2012; Wrzesniewski & Dutton, 2001). Since the introduction of the concept of job crafting in 2001, multiple job crafting dimensions have been introduced. Wrzesniewski and Dutton (2001) distinguished task (i.e., changing the type or number of job tasks), relational (i.e., changing how or with whom one interacts at work), and cognitive crafting (i.e., changing ones view of the job). However, most job crafting researchers (e.g., Bruning & Campion, 2018; Nielsen & Abildgaard, 2012; Petrou et al., 2012; Tims et al., 2012) build on the job demands and resources model (e.g., Demerouti et al., 2001) and examined job crafting dimensions reflecting increases in job resources and some job demands and decreases in other job demands (e.g., increasing structural job resources and challenging demands, or decreasing hindering job demands). Recently, Zhang and Parker (2019) integrated these two streams in the job crafting literature. They build on the distinction between approach (i.e., seeking to achieve positive aspects) and avoidance crafting (i.e., moving away from negative aspects) to introduce eight types of job crafting, such as approach resources behavioural crafting or avoidance demands cognitive crafting.

This exclusive focus on ways of crafting (i.e., task, relational or cognitive) or specific job characteristics that are crafted (i.e., demands or resources) has led to a neglect of job crafting behaviours that are particularly aimed at adapting job tasks so that they match the personal resources of the employee. Personal resources are aspects of the self that are associated with resiliency and refer to individuals' sense of their ability to control and influence their environment successfully (Hobfoll et al., 2003). As such, personal resources, such as interests, strengths, abilities, knowledge, growth potential, and skills, are means for achieving one's goals (Freund & Riediger, 2001). Particularly older workers benefit from job crafting in terms of personal resources because they increasingly have to deal with age-related changes in the availability of these resources (Baltes, 1997). More specifically, losses, such as in physical abilities, start to outnumber gains, such as in experience and emotion regulation, with older age. As a result, the acquisition of new resources becomes more difficult and losses in personal resources become more likely. Therefore, the amount of resources accumulated earlier and their management is crucial for older workers (Freund, 2008). As shown by the literature on lifespan psychology, older workers thus take an active role in shaping their environment in response to changes in personal resources (Freund, 2008). The environmental proactivity hypothesis, for example, suggests that older adults are not simply pawns of their environment but can proactively change environments to meet their own needs (Lawton, 1989; Wahl

et al., 2012). Similarly, Ouwehand et al. (2007) argue that older people do not simply cope with decline, but also continue to actively develop themselves and strive for personal goals by creating environments that make success possible. In addition, older workers know their own personal resources better (Bosma & Kunnen, 2001) because they have dealt with multiple problems and challenges (Baltes, 1987) and they have had more time to deepen, refine, elaborate, and stabilize their (professional) identity (e.g., Roberts & Caspi, 2003). Hence, adjusting the job to (changing) personal resources is crucial for older workers because they increasingly have to deal with age-related changes in the availability of these resources (Baltes, 1997) and have gained more insights in their personal resources (e.g., Helson et al., 1995).

To incorporate personal resources in the job crafting conceptualization, we build on the work of D.T.A.M. Kooij et al. (2017) and Kuijpers et al. (2020), who introduced job crafting dimensions reflecting adaptations to employee interests, strengths and growth potential to enhance the fit between personal resources and the job (e.g., taking on interesting projects, reorganizing work to use ones strengths, or creating opportunities to apply unused knowledge and skills). Building on their work, we introduce three job crafting behaviours based on three prominent goals of developmental adaptation as identified in the literature on lifespan development (e.g., P.B. Baltes et al., 1999). The literature on lifespan development suggests that people will allocate their resources, such as effort, time, and energy, to these three lifespan goals: *growth* refers to behaviour aimed at reaching higher levels of functioning, *maintenance* refers to behaviour aimed at maintaining current levels of functioning in the face of age-related challenges, and *regulation of loss* refers to behaviour aimed at functioning adequately at lower levels. Of these goals, older workers tend to be more focused on maintenance and regulation of loss and less on growth. Nonetheless, all three lifespan goals remain important throughout the lifespan (P.B. Baltes et al., 1999). In addition, older workers are likely to manage their resources differently in aiming to reach these lifespan goals. Particularly, they will engage in selection, optimization, and compensation strategies; older workers select fewer work goals or outcomes that fit the availability of their personal resources, optimize the acquisition, refinement, and maintenance of resources that are effective in achieving these desirable work goals and outcomes, and compensate the loss of outcome-relevant resources (Baltes & Baltes, 1990; Freund & Baltes, 2002). Hence, we propose that older workers will engage in job crafting behaviours to strive towards these three goals at work by using these strategies (e.g., D. T. A. M. Kooij et al., 2015). First, by engaging in accommodative crafting (a selection strategy), older workers strive towards regulating losses when they experience age-related losses in their personal resources such as lower physical health or declining fluid intelligence (e.g., Salthouse, 2012). Accommodative crafting thus captures crafting activities aimed at regulating a loss in older worker resources and making sure that they do not overuse their resources by reducing physical, cognitive, emotional, and quantitative demands (Kooij, 2015). Second, by engaging in utilization crafting (a compensation strategy) older workers strive towards maintaining current levels of functioning when faced with challenges

due to the ageing process by compensating for losses in their personal resources with the use of other personal resources. Utilization crafting thus refers to crafting activities aimed at utilizing current knowledge and skills and interests in the job. Finally, by engaging in developmental crafting (an optimization strategy), older workers strive towards functioning at higher levels by optimizing and building their personal resources. Hence, developmental crafting refers to crafting activities aimed at realizing older worker potential by creating developmental opportunities for themselves and increasing challenging demands and responsibilities (Kooij, 2015; Kuijpers et al., 2020).

Opportunity-enhancing HR practices and job crafting behaviour

Although job crafting behaviour is bottom-up and self-initiated behaviour, earlier studies found that organizations can trigger job crafting behaviour, for example, by offering flexibility HR practices (i.e., resource and coordination flexibility; Tuan, 2017; Wright & Snell, 1998) or high-commitment HR practices (Hu et al., 2020; Meijerink et al., 2018). We extend this stream of research and propose that opportunity-enhancing HR practices will stimulate older workers' engagement in job crafting behaviour. We focus on opportunity-enhancing HR practices because these HR practices (i.e., autonomy, team work, job rotation and flexible work assignments, broadly designed jobs, role flexibility, decentralized decision-making, participation in decision-making, suggestion systems, and information sharing; Jiang et al., 2012a; Prieto & Pilar Pérez, 2012) are particularly aimed at involving employees in work tasks, goal-setting, and decision-making, which is likely to stimulate job crafting behaviour.

Opportunity-enhancing HR practices are distinguished based on the ability-motivation-opportunity (AMO) model of human resource management, which conceptualizes performance as a function of ability, motivation, and opportunity to perform. Accordingly, HR systems designed to maximize employee performance can be viewed as a composition of three dimensions intended to enhance employee skills, motivation, and opportunity to contribute (Appelbaum et al., 2000; Jiang et al., 2012a). Although ability- and motivation-enhancing HR practices might stimulate job crafting behaviour indirectly by developing the necessary knowledge and skills and by reinforcing and rewarding job crafting behaviour, opportunity-enhancing practices influence job crafting behaviour more proximally by providing employees with autonomy, information, or discretion (e.g., Chamberlin et al., 2018; Gardner et al., 2011; Subramony, 2009). As such, these HR practices influence employees by functioning as environmental cues that they are allowed and even expected to apply their knowledge, skills, abilities and motivation to contribute to and hence be involved in work tasks, goal-setting, and decision-making (e.g., Blumberg & Pringle, 1982; Chamberlin et al., 2018; Prieto & Pilar Pérez, 2012). In line with this reasoning, we focus on employees' perceptions of these HR practices. Prior studies have also convincingly shown that it is the employees' perceptions of HR practices that affect worker outcomes (e.g., Liao et al., 2009). Due to individual and situational differences,

employees may perceive different HR practices than the reported implemented HR practices by line-managers (e.g., Chamberlin et al., 2018; Liao et al., 2009).

Since signalling theory proposes that employees use their perceptions of HR practices as signals of the organization's requirements because they have imperfect information about the expectations of their organization (Casper & Harris, 2008), we follow Chamberlin et al. (2018) and build on social cognitive theory (SCT; Bandura, 1989; Bosma & Kunnen, 2001) to propose that changes in older worker perceptions of opportunity-enhancing HR practices are positively related to changes in job crafting behaviour. SCT proposes that people actively perceive and interpret their environment and are influenced by these perceptions and interpretations of their environment instead of by a supposedly objective reality (see also Thomas & Velthouse, 1990). For example, the organization may decide to increasingly decentralize decision-making, but if supervisors still try to control decisions, employees will not perceive they are increasingly allowed to take decisions (a perceptual reality) and the change in decentralized decision-making will not change employee behaviour. SCT further proposes that employees will try to figure out which behaviour is required in or desired by the organization by searching environmental cues. In response to these environmental cues that direct and reinforce desired behaviour, employees engage in agentic actions (Bandura, 1989, 2001). We suggest that opportunity-enhancing HR practices serve as a cue to which older workers respond with involvement in work tasks, goal-setting, and decision-making (e.g., trying to simplify tasks, changing jobs to make them more interesting, or taking on more responsibilities), and thus job crafting behaviour (Chamberlin et al., 2018). As such, job crafting aligns with Bandura's (2001) argument that behaviour of employees is guided by intentionality and forethought and is a way for employees to shape their environment. In sum, by offering and communicating opportunity-enhancing HR practices to a larger extent, the organization signals to its older workers that increased involvement is desired. In fact, the organization signals with this change in HR practices that there is an increased zone of acceptance (i.e., the array of decisions or actions accepted as part of a job; Simon, 1997), and that adjusting the job to personal resources is increasingly allowed. Based on SCT, we formulate our first hypothesis:

Hypothesis 1: Changes in employees' perceptions of opportunity-enhancing HR practices are positively associated with changes in job crafting behaviour (i.e., accommodative, utilization, and developmental crafting).

The role of psychological empowerment

We also aim to unravel the process through which changes in opportunity-enhancing HR practices influence changes in job crafting behaviour. Several researchers (e.g., Jiang et al., 2012a; Liao et al., 2009) have proposed that opportunity-enhancing HR practices lead to performance through higher levels of psychological empowerment. Here we propose a similar mechanism to explain the association between changes in employees'

perceptions of opportunity-enhancing HR practices and changes in job crafting behaviour. Psychological empowerment refers to "a set of psychological states that are necessary for individuals to feel a sense of control in relation to their work" (Spreitzer, 2008, p. 56). It reflects an intrinsic task motivation evidenced by four cognitions: meaning, self-determination, competence, and impact (Spreitzer, 1995, 1996, 2008; Thomas & Velthouse, 1990). Employees experience meaning if their ideals and standards are in line with the value of the goals that the company requires them to achieve. Employees experience self-determination if they feel autonomous and can initiate and regulate work-related activities (Deci et al., 1989). Employees experience competence, or self-efficacy, if they feel able to skilfully perform job-related tasks which relate to agency beliefs and personal mastery (Bandura, 1989). Finally, employees experience impact if they feel they can influence outcomes at work (Spreitzer, 1995; Thomas & Velthouse, 1990). In sum, these four cognitions reflect a sense of control and an active orientation towards work.

According to Thomas and Velthouse (1990), psychological empowerment is shaped by the work environment. Since opportunity-enhancing HR practices provide environmental cues that signal to employees that they are allowed and even expected to get involved in working tasks, goal-setting, and decision-making, we argue that increases in employee perceptions of opportunity-enhancing HR practices will lead to increases in psychological empowerment (Chamberlin et al., 2018). Opportunity-enhancing HR practices are designed to empower employees to use their skills and motivation to achieve organizational objectives (Jiang et al., 2012b, 2012a) and are sometimes even referred to as "empowerment-enhancing" HR practices (e.g., Gardner et al., 2011; Subramony, 2009). Since opportunity-enhancing HR practices invite participation in work tasks, goal-setting, and decision-making, they are perceived as opportunities for control and involvement and are therefore inherently empowering (Chamberlin et al., 2018). Building on signalling and social cognitive theory (Bandura, 1989; Bosma & Kunnen, 2001; Casper & Harris, 2008), we thus argue that these opportunity-enhancing HR practices offer environmental cues that signal to older workers that they are permitted and even expected to use their motivational and cognitive resources to be involved in working tasks, goal-setting, and decision-making. Many studies including a recent meta-analysis indeed demonstrate the positive association between opportunity-enhancing HR practices and psychological empowerment (e.g., Aryee et al., 2012; Chamberlin et al., 2018; Liao et al., 2009; Messersmith et al., 2011). Based on this extensive line of research, we propose that:

Hypothesis 2: Changes in employees' perceptions of opportunity-enhancing HR practices are positively associated with changes in psychological empowerment.

Building on SCT (Bandura, 1989; Bosma & Kunnen, 2001), we argue that changes in psychological empowerment in turn will be positively associated with changes in job crafting behaviours. According to Bandura (1989), behaviours are driven by self-generated influences. More particularly, social cognitive theory suggests that individuals are more likely to

engage in agentic behaviours, such as job crafting behaviour, when they have a sense of competence in their skills and feel a sense of control over their environment (Bandura, 1989, 2001). Hence, when older workers feel more psychologically empowered, experiencing more personal meaning, competence, control, and impact, they are increasingly likely to exercise agency in order to adjust their job to (changing) personal resources which is crucial for them (Heckhausen, 2020). As such, when feeling more psychologically empowered they might increasingly take on tasks they are good at or from which they can learn or make their work emotionally less intense. In this line of reasoning, previous research shows that self-efficacy and control are positively associated with job crafting (Rudolph et al., 2017; Zhang & Parker, 2019). In addition, previous research demonstrates that psychological empowerment is positively associated to numerous concepts related to job crafting, such as creativity, flexibility, and initiative taking (Thomas & Velthouse, 1990), innovativeness at work (Seibert et al., 2011; Spreitzer, 1995), and stimulating change in organizations (Conger & Kanungo, 1988). Building on social cognitive theory and these empirical studies, we propose that:

Hypothesis 3: Changes in psychological empowerment are positively associated with changes in job crafting behaviour (i.e., accommodative, utilization, and developmental crafting).

Finally, following SCT (Bandura, 1989, 2001) and our reasoning of the previous hypotheses, we propose that changes in opportunity-enhancing HR practices have an indirect effect on changes in job crafting behaviour via changes in psychological empowerment. Similar to Chamberlin et al. (2018), we argue that psychological empowerment transfers the effects of opportunity-enhancing HR practices to job crafting behaviour. When older workers perceive that more opportunity-enhancing HR practices are offered by the organization or are in place at work (i.e., a change in perception of these practices), they will experience more personal control and self-determination, feel more competent, and understand better how they can influence organizational activities thus increasing their feelings of empowerment. These increased feelings of empowerment, in turn, will likely result in a more active orientation towards the work situation increasing job crafting behaviour. Following this line of reasoning, empirical studies suggest and show that the relationship between HR practices and employee creativity

and innovative performance is mediated by psychological empowerment (e.g., Ehrnrooth & Björkman, 2012; Seibert et al., 2011). Therefore, our final hypothesis is:

Hypothesis 4: Changes in employees' perceptions of opportunity-enhancing HR practices have a positive indirect effect on changes in job crafting behaviour (i.e., accommodative, utilization, and developmental crafting) through changes in psychological empowerment.

Our hypothesized model is visualized in Figure 1. This figure shows that we expect changes in psychological empowerment to partially explain the relationship between changes in employees' perceptions of opportunity-enhancing HR practices and changes in job crafting in line with our hypotheses.

Method

Procedure and participants

We collected data as part of an ongoing data collection among Dutch workers aged 65 and older affiliated with a temporary employment agency aiming to employ post-retirement workers from 2011 until 2021 (e.g., B. B. Baltes et al., 2014; Müller et al., 2013). These older workers are officially retired, but continue working for various reasons, including financial reasons. Since the labour market participation of this group of older workers is increasing tremendously and they are likely to deal with age-related losses in their personal resources, we focus on this particular group of older workers. In 2016, an on-line questionnaire was sent to all 1,629 older workers registered at the temporary employment agency, with 808 employees responding. A total of 510 employees provided completed questionnaires resulting in a response rate of 31.3%. One and a half year later these respondents received the second questionnaire. We employed a time lag of one and a half year because Piening et al. (2013) showed that a one year time lag is enough to find changes in employees' HR system perceptions which cause change in job satisfaction. Since we focus on changes in behaviour, which might take more time to change than attitudes, we decided to use a time lag of one and a half year. A total of 173 out of 510 employees responded to the second questionnaire. We conducted t-tests to examine the effect of non-responses between T1 and T2. These analyses revealed that those who dropped-out after the first wave of data collection and those who completed both surveys did not differ significantly on gender ($t(510) = .02, p = .897$), educational level ($t(510) = .09, p = .759$), accommodative crafting (t

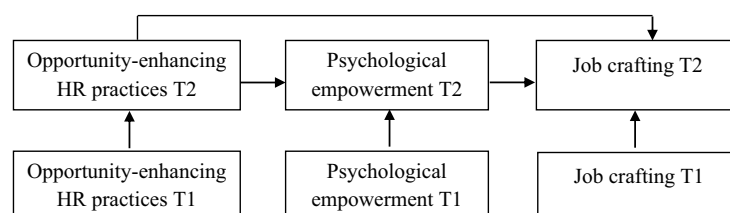


Figure 1. Hypothesized model. Note. T = Time.

(510) = .00, $p = .975$), developmental crafting ($t(510) = 1.02$, $p = .313$), utilization crafting ($t(510) = .68$, $p = .411$), nor psychological empowerment ($t(510) = .45$, $p = .502$). However, significant differences were obtained between drop-outs and respondents on age ($t(508) = 11.25$, $p < .01$) and on opportunity-enhancing HR practices ($t(510) = 13.76$, $p < .001$). In comparison to participants who completed both waves, drop-outs were older (335 drop-outs, $M = 69.3$; 173 responders, $M = 68.3$), and perceived fewer opportunity-enhancing HR practices (337 drop-outs, $M = 2.3$; 173 responders, $M = 3.0$). A total of 127 employees provided complete responses, resulting in a 2.9% response rate. However, since two employees switched organizations between the two waves, we removed them from the sample. The final sample consisted of 125 older workers, of whom 28 were female (22%), with an average age of 68.3 years ($SD = 2.4$). At the time of data collection, the retirement age in the Netherlands was 65 years and 6 months. A large part of the sample (36%) held at least a bachelor's degree. The majority of the employees worked as a monitor (during exams) or security guard (22.4%), followed by trainers (20.8%), mail deliverers (15.2%) and technicians (10.4%). Most employees report that they fulfil physically or physically and mentally demanding tasks (68.5%). Employees worked on average 11.1 hours per week and most of the employees worked prolonged at the same organization (72%).

Measurement instruments

Perceived opportunity-enhancing HR practices were measured at Time 1 and Time 2 using 10-items derived from Prieto and Pilar Pérez (2012). The items assess opportunities to participate in decision-making, information sharing and broad and flexible job design. Example items are "My department transfers extensively different tasks and responsibilities to employees" and "Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc." (1 = strongly disagree to 5 = strongly agree). Given the importance of role flexibility in opportunity-enhancing HR practices, we added an additional item on role flexibility: "Tasks and responsibilities of employees are flexibly defined" based on Hu et al. (2020). Cronbach's alpha was good at both time points (T1: $\alpha = .92$; T2: $\alpha = .94$).

Psychological empowerment was measured at Time 1 and Time 2 using a 12-item scale (1 = strongly disagree to 7 = strongly agree) proposed by Spreitzer (1995). This scale measures meaning ("The work I do is meaningful to me"), competence ("I am confident about my ability to do my job"), self-determination ("I can decide on my own how to go about doing my work"), and impact ("I have a large impact on what happens in my department"). Prior studies have shown that the four dimensions are highly correlated (Spreitzer, 1996) and that it is therefore justified to use psychological empowerment as a one-dimensional construct (Messersmith et al., 2011). Cronbach's alpha was good at both time points (T1: $\alpha = .88$; T2: $\alpha = .91$).

Job crafting behaviour was measured at Time 1 and Time 2 using the new Job Crafting over the Lifespan (JCL) scale developed to measure accommodative, utilization, and developmental crafting. The three dimensions of

job crafting behaviour were assessed with items that were generated deductively (Hinkin, 1998) from a review of existing literature on job crafting (e.g., D.T.A.M. Kooij et al., 2017; Petrou et al., 2012; Tims et al., 2012) as well as interviews we carried out for a qualitative study on job crafting among employees from different sectors, organizations, jobs, gender, rank, and age asking how exactly these employees crafted their job. This combination of deductive scale development and interviews resulted in 41 items (i.e., job crafting behaviours). Subsequently, we asked 10 well-known researchers on job crafting to categorize these 41 job crafting behaviours in our job crafting dimensions (i.e., accommodative, interests utilization, knowledge/abilities utilization, or developmental crafting) if possible. The resulting 35 items on which 7 of the 10 experts generally agreed were then administered to a convenience sample of 332 employees of different age, jobs and organizations. An exploratory factor analysis on the items suggested that, after items with low (.40) and double factor loadings were removed, a final set of 15 items loaded on three factors with eigenvalues greater than one. Together, these factors accounted for 58.47% of the variance and each dimension showed acceptable reliability (accommodative crafting $\alpha = .71$, utilization crafting $\alpha = .83$, and developmental crafting $\alpha = .84$).

In addition, we measured other constructs among participants of the above-mentioned convenience sample to assess criterion validity. Among $N = 182$ participants we measured proactive personality (Bateman & Crant, 1993; Claes et al., 2005), work engagement (UWES; Schaufeli & Bakker, 2003), and employability (Aryee et al., 2012). In line with earlier validation studies of job crafting measures (e.g., Nielsen & Abildgaard, 2012; Tims et al., 2012), we found that all dimensions of job crafting are moderately related to, but distinct from, proactive personality (correlations range from .16 to .54) and that developmental and utilization crafting but not accommodative crafting were significantly positively associated with employability and work engagement. Among $N = 150$ participants of the above mentioned convenience sample, we measured the job crafting dimensions increasing challenging demands, increasing structural resources, increasing social resources, and decreasing hindering demands (Tims et al., 2012). We found that accommodative, utilization, and developmental crafting are moderately related to, but distinct from these existing job crafting dimensions (correlations range from .12 to .73; see Table 1). In addition, the formulation of our

Table 1. Correlations between new and existing job crafting dimensions.

	Accommodative crafting	Utilization crafting	Developmental crafting
Increasing structural resources	.28**	.59 ^a	.73 ^a
Decreasing hindering demands	.65 ^a	.12	.17*
Increasing social resources	.30 ^a	.37 ^a	.48 ^a
Increasing challenging demands	.33 ^a	.63 ^a	.69 ^a

Note. $N = 150$; ^a $p < .001$; ** $p < .01$; * $p < .05$.

items is very different from the formulation of the Tims et al. (2012) items; our items are more generally formulated (e.g., “I take on more responsibilities” versus “I try to make my work more challenging by examining the underlying relationships between aspects of my job”), specifically measure task crafting rather than task and relational crafting, and particularly aim to measure adjusting the job to personal resources such as interests, abilities, and current knowledge and experience (e.g., “I look for opportunities to use different current skills in my work”). Finally, the scale was cross-validated on a sample of $N = 706$ older workers (T1 sample of this study). We conducted confirmatory factor analysis (CFA) on the 15 items. We followed Hu and Bentler (1998) recommendations to evaluate model fit by using multiple indices of fit; the chi-square statistic (χ^2), the Comparative Fit Index (CFI; acceptable above .90 and good above .95), and the Root Mean Square Error of Approximation (RMSEA; acceptable below .08, but preferably close to .06). The CFA showed that the three-factor structure of accommodative, utilization, and developmental crafting exhibited good fit ($\chi^2(87) = 504.94$, CFI = .94, RMSEA = .08) and that each dimension showed good reliability (accommodative crafting $\alpha = .82$, utilization crafting $\alpha = .91$, and developmental crafting $\alpha = .89$).

Therefore, we used this 15-item scale in the current study. CFAs showed acceptable fit (T1: $\chi^2(87) = 150.75$, CFI = .94, RMSEA = .08; T2: $\chi^2(87) = 201.73$, CFI = .90, RMSEA = .10) and this fit was significantly better than the fit of a two-factor model in which utilization and developmental crafting were combined (T1: $\Delta\chi^2(2) = 28.31$, $p < .001$; T2: $\Delta\chi^2(2) = 20.55$, $p < .001$) and a one-factor model (T1: $\Delta\chi^2(3) = 86.68$, $p < .001$; T2: $\Delta\chi^2(3) = 58.82$, $p < .001$). In addition, reliability was good (accommodative crafting T1 $\alpha = .76$ /T2 $\alpha = .77$; utilization crafting T1 $\alpha = .89$ /.89; developmental crafting T1 $\alpha = .88$ /.90) at both time points. The factor loadings for the 15 items are shown in Table 2.

Control variables. Potential control variables included age, education level, and whether employees worked prolonged at the same organization. Age and level of education are

indicators of human capital and might influence employees' ability to act and positively influence the work environment (Becker, 1964).

Model specification and statistical analysis

To test our hypotheses, we conducted structural equation modelling in AMOS 19 (Arbuckle, 2006) to fit the proposed model to the data. Please note that this and the following models include stabilities and therefore refer to changes in opportunity-enhancing HR practices, psychological empowerment, and job crafting over the 1.5-year study period. Given the proportion of the number of items measuring our study variables, on the one hand, to the number of cases, on the other hand, we decided to include average opportunity-enhancing HR practices, psychological empowerment, and job crafting scores as manifest (i.e., the observed average score) variables rather than as latent variables (i.e., using the items as indicators) in our model in order to maintain a favourable indicator-to-sample size ratio. Following recommendations by Pitts et al. (1996), the corresponding measurement errors of, respectively, accommodative, utilization, and developmental crafting on Time 2 were allowed to covary.

We followed the procedure of MacKinnon et al. (2007) to test the mediating effect (Hypothesis 4). MacKinnon et al. (2007) proposed that two conditions must be met to establish mediation: a) the independent variable (i.e., opportunity-enhancing HR practices) is significantly related to the mediator (i.e., psychological empowerment); and b) the mediator is significantly related to the dependent variable (i.e., job crafting). In addition, we used the bootstrapping method, which repeatedly draws a random sample from the data to estimate the sampling distribution of the indirect effect. This method thus provides bootstrapped confidence intervals to test the indirect effect for significance (Shrout & Bolger, 2002). We also compared the fit of our hypothesized model to the fit of a model without the direct relationship between the independent and dependent variables to test for full or partial mediation.

Table 2. Confirmatory factor analyses factor loadings.

	Accommodative crafting T1	Utilization crafting T1	Developmental crafting T1	Accommodative crafting T2	Utilization crafting T2	Developmental crafting T2
(1) I make my work emotionally less intense	.64			.60		
(1) I make sure my work is mentally less intense	.73			.58		
(1) I try to simplify my tasks	.60			.68		
(1) I make sure my work is not too stressful	.64			.47		
(1) I change my way of working to be able to accomplish my work again	.58			.78		
(1) I look for tasks that match my interests		.87			.85	
(1) I ensure I get those tasks that I enjoy		.68			.57	
(1) I change my job to make it more interesting		.77			.82	
(1) I change my job to use my current knowledge and capacities to the fullest		.78			.81	
(1) I take on tasks I am good at		.82			.83	
(1) I look for tasks through which I can develop myself			.77			.80
(1) I take on tasks from which I can learn			.84			.84
(1) I look for tasks that activate unused knowledge and skills			.83			.76
(1) I take on more responsibilities			.68			.82
(1) I look for opportunities to use different current skills in my work			.75			.82

Table 3. Means, standard deviations and correlations.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	68.34	2.38												
2. Educational level	4.34	1.86	-.10											
3. Prolonged at org	.72	.45	-.04	-.28**										
4. Opportunity HR T1	3.01	.71	-.14	-.02	.11									
5. Psychological emp T1	5.00	.88	-.11	-.21*	.26**	.40 ^a								
6. Accommodative T1	1.96	.72	-.04	-.08	-.07	.22*	.17							
7. Utilization T1	2.33	.94	-.07	.10	-.10	.34 ^a	.35 ^a	.49 ^a						
8. Developmental T1	2.44	.87	-.13	.04	-.03	.30**	.36 ^a	.52 ^a	.79 ^a					
9. Opportunity HR T2	2.83	.83	-.23*	-.11	.13	.62 ^a	.42 ^a	.20*	.29**	.23**				
10. Psychological emp T2	4.99	1.05	-.19*	-.24**	.17	.29**	.68 ^a	.16	.27**	.30**	.43 ^a			
11. Accommodative T2	1.88	.74	-.05	-.04	-.15	.09	.02	.45 ^a	.23**	.27**	.19*	.20*		
12. Utilization T2	2.24	.92	-.08	.03	-.13	.16	.23**	.43 ^a	.61 ^a	.61 ^a	.24**	.42 ^a	.55 ^a	
13. Developmental T2	2.28	.92	-.09	.02	-.11	.13	.26**	.34 ^a	.48 ^a	.61 ^a	.19*	.43 ^a	.58 ^a	.81 ^a

Note. *N* = 125; ^a *p* < .001; ** *p* < .01; * *p* < .05; T = Time.

Results

Descriptives

Table 3 shows the means, standard deviations and correlations of the study variables. In line with our hypotheses, perceived opportunity-enhancing HR practices at Time 2 were positively associated with psychological empowerment at Time 2 ($r = .43, p < .001$), and with accommodative crafting at Time 2 ($r = .19, p < .05$), utilization crafting at Time 2 ($r = .24, p < .01$), and developmental crafting at Time 2 ($r = .19, p < .05$). Also, psychological empowerment at Time 2 was positively associated with accommodative crafting at Time 2 ($r = .20, p < .05$), with utilization crafting at Time 2 ($r = .42, p < .001$), and with developmental crafting at Time 2 ($r = .43, p < .001$). Finally, Table 3 shows that age and education level were significantly associated with psychological empowerment at Time 2.

Model fit and hypothesis testing

The final fitted structural model (i.e., the hypothesized model including control variables influencing psychological empowerment) is shown in Figure 2 controlling for age and educational level (i.e., $\chi^2 = 44.10, df = 28, CFI = .98, RMSEA = .07$).

Changes in perceived opportunity-enhancing HR practices were not directly associated with changes in job crafting behaviour, thus not supporting Hypothesis 1. Changes in perceived opportunity-enhancing HR practices (i.e., from Time 1 to

Time 2) were positively related to changes in psychological empowerment (i.e., from Time 1 to Time 2 ($\beta = .20, p < .05$)) supporting Hypothesis 2. Changes in psychological empowerment were positively related to changes in utilization and developmental crafting (i.e., from Time 1 to Time 2; respectively $\beta = .26, p < .001$ and $\beta = .29, p < .001$). However, changes in psychological empowerment were not related to changes in accommodative crafting ($\beta = .08, p = .179$). Hypothesis 3 is thus only supported for utilization and developmental crafting; a change in psychological empowerment is positively associated to a change in utilization and developmental crafting, but not to a change in accommodative crafting. Finally, Hypothesis 4 proposed that changes in employees' perceptions of opportunity-enhancing HR practices have a positive indirect effect on changes in job crafting behaviour through changes in psychological empowerment. The two conditions necessary for an indirect effect were met for utilization and developmental crafting. The test of the indirect effect was indeed significant for utilization crafting (indirect effect .05, $p < .05$; 95% CI = .01, .12) and developmental crafting (indirect effect .06, $p < .05$; 95% CI = .01, .14). In sum, Hypothesis 4 was supported for utilization and developmental crafting. Finally, we compared our hypothesized model to a model without the path between changes in opportunity-enhancing HR practices and changes in job crafting and found that the χ^2 difference between these models was not significant ($\Delta\chi^2/\Delta df = .275/3, p = .432$), suggesting full mediation.

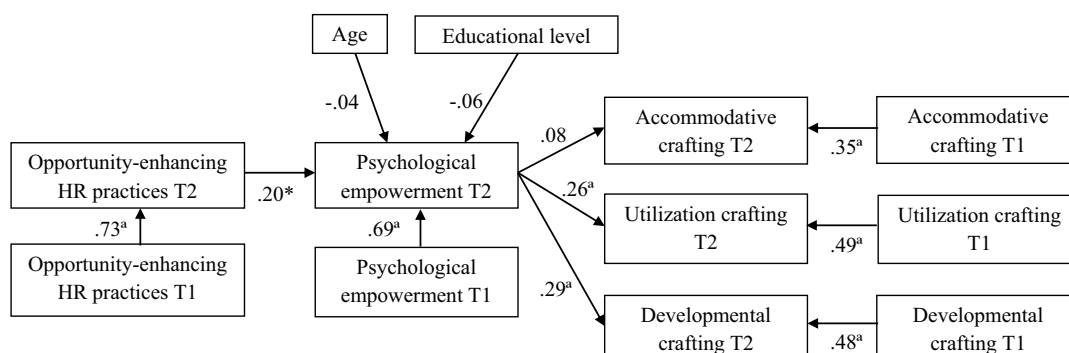


Figure 2. Standardized effects for all employees (controlling for age and educational level). Note. ^a *p* < .001; ** *p* < .01; * *p* < .05. T = Time; we left the direct effects between opportunity-enhancing HR practices and job crafting out.

Discussion

Since job crafting behaviour is of profound importance to retain older workers (Lichtenthaler & Fischbach, 2016), this survey study aimed to add to the literature on job crafting and human resource management by investigating whether and why changes in older workers' perceptions of opportunity-enhancing HR practices were associated with changes in their job crafting behaviour. In line with our expectations based on social cognitive theory (Bandura, 1989; Bosma & Kunnen, 2001), our results show that changes in perceptions of opportunity-enhancing practices are positively associated with changes in psychological empowerment and, in turn, to changes in utilization and developmental crafting behaviours. This suggests that when older workers perceive more opportunity-enhancing HR practices (e.g., opportunities to participate in decision-making), they tend to feel more psychologically empowered and engage more in crafting activities aimed at utilizing their current knowledge, skills and interests, and aimed at optimizing personal resources by realizing their growth potential. Unexpectedly, changes in psychological empowerment did not lead to changes in accommodative crafting. When older workers feel more empowered, they will not increase their crafting activities aimed at regulation of loss by reducing job demands. Although this is not in line with our expectations, previous studies have shown that when older adults experience momentary goal conflict, they are more likely to engage in optimization and compensation strategies (i.e., development and utilization crafting) to deal with the conflict and not in selection strategies (i.e., accommodative crafting; Knecht & Freund, 2017). According to Freund (2008), goal conflict occurs when "limited resources do not allow different goals to be pursued simultaneously". Given that the majority of the older workers in our sample experienced that they fulfil physically or physically and mentally demanding tasks, they might experience increased age-related losses and thus goal conflict. As a result, they engage more in utilization and development crafting when they perceive increased levels of psychological empowerment instead of accommodative crafting. Future research should verify this potential explanation by testing our hypotheses in a sample of older workers with less physically and mentally demanding jobs. Also unexpectedly, changes in opportunity-enhancing HR practices perceptions were not directly related to changes in job crafting behaviour. This finding suggests that changes in opportunity-enhancing HR practices only lead to changes in job crafting behaviour when older workers experience changes in their psychological empowerment. Although this differs from earlier findings (e.g., Hu et al., 2020; Meijerink et al., 2018; Tuan, 2017) demonstrating a direct positive association between HR practices and job crafting, those studies focused on inter-individual differences, whereas we focus on intra-individual changes. Hence, these previous studies show that employees who are offered more HR practices engage in more job crafting behaviour compared to employees who are offered less HR practices. Our study shows that employees who perceive more opportunity-enhancing HR practices over time will feel more psychologically empowered and hence will engage in more job crafting

behaviour over time. This is actually in line with social cognitive theory (Bandura, 1989; Bosma & Kunnen, 2001) that proposes that behaviours are driven by self-generated influences and thus that change in psychological empowerment is needed for employees to change their job crafting behaviour. This finding is also in line with the current sample: retired older workers. Although some of the workers have to work for financial reasons, most of them continue working voluntarily. Hence, their psychological empowerment may be even more important to engage in job crafting behaviours because they only continue to work when they perceive personal meaning, competence and control in their work.

This study contributes to the literature on job crafting. Earlier studies have proposed and demonstrated that job crafting has beneficial effects on both employees and organizations (e.g., Tims et al., 2016) and that job crafting behaviour is beneficial to retain older workers (D.T.A.M. Kooij et al., 2017; Lichtenthaler & Fischbach, 2016; D. T. A. M. Kooij et al., 2015). However, although this literature has also suggested that organizations can trigger job crafting behaviour (e.g., Wrzesniewski & Dutton, 2001), knowledge on whether and through which process organizations stimulate job crafting behaviour is scarce. In line with signalling and social cognitive theories (Bandura, 1989; Bosma & Kunnen, 2001; Casper & Harris, 2008), we showed in this study that when older workers increasingly experience opportunity-enhancing HR practices, such as information sharing, decentralized decision-making, and broad and flexible job descriptions, their feelings of psychological empowerment increase as well, and they engage increasingly in utilization and developmental crafting behaviour. These findings suggest that organizations can trigger psychological empowerment and job crafting behaviour with environmental cues by offering and communicating opportunity-enhancing HR practices to their older workers.

Further, we add to the literature on job crafting by conceptualizing job crafting in terms of adjusting the job to personal resources, such as employee interests, abilities, knowledge, and growth potential. More particularly, we introduced three job crafting behaviours that relate to three prominent lifespan goals (e.g., P.B. Baltes et al., 1999): accommodative crafting aimed at accommodating or regulating losses in personal resources, utilization crafting aimed at utilizing current personal resources to compensate for losses in other personal resources, and developmental crafting aimed at optimizing personal resources by realizing ones growth potential (e.g., Kuijpers et al., 2020; D. T. A. M. Kooij et al., 2015). We developed a new scale to measure these job crafting behaviours and showed that these job crafting behaviours are related to but different from proactive personality and existing job crafting dimensions introduced by Tims et al. (2012).

Finally, we add to the literature on human resource management, and particularly to the literature on opportunity-enhancing HR practices (Chamberlin et al., 2018). More specifically, by building on signalling and social cognitive theories (Bandura, 1989; Bosma & Kunnen, 2001; Casper & Harris, 2008), we propose that opportunity-enhancing HR practices function as environmental cues that communicate to older workers that they are allowed and even expected to be involved in working tasks, goal-setting, and decision-making. We found tentative

support for these ideas; changes in employee perceptions of opportunity-enhancing HR practices were found to be positively associated with changes in psychological empowerment and in job crafting behaviours. These results suggest that opportunity-enhancing HR practices are also beneficial for older workers and for more employee-centred and active worker outcomes such as job crafting. With this we offer a behavioural explanation for why opportunity-enhancing HR practices could lead to job performance. Since employees who perceive increasing opportunity-enhancing HR practices are likely to feel more psychologically empowered, they will presumably change their job in such a way that it improves their person-job fit which in turn might improve their job performance.

Limitations and future research

Although our survey design allows us to conclude that changes in perceptions of opportunity-enhancing HR practices are positively associated with changes in psychological empowerment and with changes in job crafting behaviour, we need to acknowledge a number of limitations of our study. First, we lack knowledge on the appropriate time lag to be used in studies examining the effects of HR practices over time (e.g., Wright et al., 2005). Prior research has shown that a one year time lag is enough to find changes in employees' perceptions of HR practices which cause change in job satisfaction (Piening et al., 2013). Here we chose a 1.5-year time lag because we focus on behaviours and not attitudes. A downside of the longer length of time lag is that it led to higher attrition rates as 67% of the respondents at Time 1 did not fill in the survey at Time 2. Since these drop-outs were older, we might have lost the "oldest" older workers with increased age-related losses in personal resources. Future research could use shorter or longer time lags to extend our findings. Second, we cannot draw conclusions about causality and our cross-sectional design is not really appropriate to test mediation. Although we argue that changes in employee perceptions of opportunity-enhancing HR practices will influence changes in feelings of psychological empowerment and in turn job crafting behaviour, Wood and Bandura (1989) argued that relationships between the environment, cognitions, and behaviour are all bidirectional. Empowered individuals can also craft their job or their environments in such a way that they have increased autonomy or opportunities for participation in decision-making. Although Spreitzer (1996) argued that the environment tends to influence the individual employee rather than the other way around, future research should examine these bidirectional relationships between employee perceptions of opportunity-enhancing HR practices, psychological empowerment, and job crafting behaviour.

Third, we focused on older workers and sampled older post retirement workers employed through a temporary employment agency. Although most participants worked prolonged at the same organization, the organization might still offer and communicate different HR practices to their permanent employees compared to their temporary employees. In addition, one might question whether the workers included in our study actually need to craft their jobs. Since the workers in our

sample worked in a range of jobs mostly involving physically demanding tasks and they worked prolonged at the same organization, we are confident that they indeed need to craft their jobs. Nevertheless, future studies should replicate our model among a broader age range employed permanently in one organization and with less demanding jobs. This would also allow us to examine how older workers differ from younger workers in the type of job crafting behaviour they engage in and the effectiveness of these behaviours.

A fourth limitation is the focus on a narrow set of opportunity-enhancing HR practices targeted at employee empowerment and involvement. Future studies could include ability- and motivation-enhancing HR practices in addition to opportunity-enhancing HR practices to unravel the interaction between ability-, motivation-, and opportunity-enhancing HR practices on psychological empowerment and job crafting behaviour (e.g., Jiang et al., 2012a). For example, it might be that older workers need ability- and motivation-enhancing HR practices in addition to opportunity-enhancing HR practices in order to build the knowledge, skills, abilities and motivation they need to be involved in work tasks, goal-setting, and decision-making and hence engage in job crafting behaviour. Fifth, we focused on employee perceptions of opportunity-enhancing HR practices as environmental cues because prior studies have convincingly shown that it is the employees' perceptions of HR practices that affect worker outcomes (e.g., Liao et al., 2009). However, previous research has also demonstrated that perceptions of HR practices differ from actual HR practices, due to individual and situational differences (e.g., Chamberlin et al., 2018; Liao et al., 2009). Therefore, future research could measure opportunity-enhancing HR practices at the department or organizational level and examine in more detail how the intended goal of the implemented opportunity-enhancing HR practices is signalled and communicated to employees. Finally, our study focused mainly on task crafting. Since Wrzesniewski and Dutton (2001) also distinguished relational and cognitive crafting, future studies could examine associations between opportunity-enhancing HR practices, psychological empowerment, and relational and cognitive crafting.

Practical implications

Our study provides tentative support that enhancing older workers' perceptions of opportunity-enhancing HR practices increases their psychological empowerment and their crafting activities aimed at utilizing their knowledge, skills and interests, and their crafting activities aimed at optimizing personal resources by realizing their growth potential. Since previous studies suggest that these crafting activities are associated with person-job fit, work engagement, and job performance among others (e.g., D.T.A.M. Kooij et al., 2017; Hu et al., 2020), they might help in extending the working lives of these older workers. Hence, to deal with worker shortages due to workforce ageing and to make sure that older workers remain engaged and productive, organizations could consider implementing and communicating opportunity-enhancing HR practices (i.e., autonomy, job rotation and flexible work assignments, broadly designed jobs, role

flexibility, decentralized decision-making, participation in decision-making, suggestions systems, and information sharing; Prieto & Pilar Pérez, 2012) to their older workers. Nevertheless, organizations should be aware that these opportunity-enhancing HR practices may not stimulate accommodative crafting and that more research is needed to provide further support for the usefulness of these HR practices for older workers.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was funded by a VENI grant (016.145.218) of the Dutch Organization for Scientific Research.

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