

# Implementing Job Crafting Behaviors: Exploring the Effects of a Job Crafting Intervention Based on the Theory of Planned Behavior

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## Abstract

This article presents a combined motivational and volitional intervention based on the theory of planned behavior aimed at promoting expansion-oriented job crafting behaviors. Participants were employees working in different companies, assigned to either an intervention ( $n = 53$ ) or a control group ( $n = 55$ ). Results of a field study (including premeasure, postmeasure, and weekly diaries) indicated that the intervention enhanced participants' perceptions of behavioral control referred to job crafting and awareness regarding others' engagement in job crafting. Latent change growth modeling showed that participation in the intervention led to participants shaping their job crafting intentions during the weeks, which translated into more frequent job crafting behaviors at the end of the study period. Besides, the intervention served to trigger weekly work-related flow experiences in terms of high absorption while working. Findings suggest that job crafting interventions can benefit from the inclusion of self-regulatory strategies complementing goal setting.

## Keywords

flow at work, implementation intention, intervention, job crafting, latent growth modeling, theory of planned behavior

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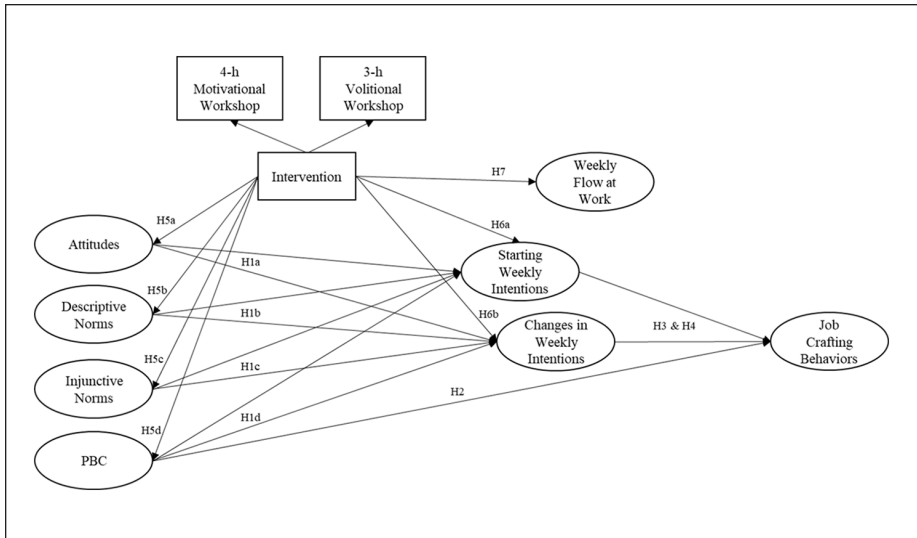
## Introduction

Job crafting refers to conscious and intentional changes proactively made to one's work (Bruning & Campion, 2018), which help employees improve or maintain job motivation and energy. Differing from other job redesign approaches such as job enrichment or enlargement, job crafting is a form of proactive behavior driven by employees rather than management (Grant & Ashford, 2008; Slemp & Vella-Brodrick, 2014). While the characteristics of the work context can contribute to shaping job crafting through empowerment (Meijerink et al., 2018), job autonomy (Kim et al., 2018), servant and transformational leadership (Harju et al., 2018; Wang et al., 2017), ultimately employees who craft their work do so on their own initiative without arrangements to be negotiated with the organization, with the final aim of reaching personal work goals (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001).

By crafting their work, employees acquire higher resources and take on new challenges (Hakanen et al., 2018; Demerouti, 2014). Also, job crafting can function as a coping mechanism to protect health when work conditions are perceived as potentially harmful (Demerouti, 2014). Sparked by such encouraging findings, scholars have started investigating how employees' engagement in job crafting can be supported through workplace interventions. Building on the job demands–resources (JD-R) theory to understand the motivating and inhibiting factors driving employees at work (Demerouti, 2014), intervention studies focused on the effectiveness of training employees to enable individual fit through self-settled goals directed at changing job demands and resources (e.g., Gordon et al., 2018; van den Heuvel et al., 2015).

While most job crafting interventions build on the JD-R theory (Bakker & Demerouti, 2014), they rely on different theoretical backgrounds to describe intervention effectiveness. For example, the first job crafting intervention (van den Heuvel et al., 2015) built on social cognitive theory (SCT; Bandura, 1991) as a frame to describe the process for learning effectiveness. Later, another study comprised elements of SCT during the training to support job crafting (Demerouti et al., 2017). Others followed the principles of proactive goal setting (Parker et al., 2010) and drew on self-determination theory (Deci & Ryan, 2000) to explain how participants were stimulated to optimize their work environment in line with personal needs (van Wingerden, Bakker, & Derks, 2017).

However, the mechanisms suggested in explaining the effectiveness of these interventions to increase job crafting were not tested in any of these studies. Thus, despite encouraging initial evidence, conclusions about why, from a psychological and theoretical perspective, interventions exert their effects on employees' behaviors remain unclear, as the available evidence does not provide any direct empirical test of the assumed theoretical processes sustaining job crafting or changing employees' crafting repertoires. Yet such an investigation is critical to advance effective evidence-based solutions that leverage on validated theoretical frameworks explaining human functioning at work, to understand why and under what conditions interventions are most effective (Donaldson et al., 2019).



**Figure 1.** A job crafting intervention study based on the theory of planned behavior.  
 Note. PBC = perceived behavioral control; H = Hypothesis.

Drawing on the theory of planned behavior (TPB; Ajzen, 1991), we devised, implemented, and tested an intervention to promote job crafting and, with it, enhance employees’ flow at work. In doing so, we propose that: (a) intentions driving employees’ job crafting result from a set of beliefs about behavioral consequences, individual control, and social norms; (b) interventions can be effective in sustaining job crafting by promoting higher access and awareness about such beliefs and norms, (c) intervention effectiveness is further improved by supporting employees’ development of implementation intentions allowing coping plasticity of their intentions to craft their job; and (d) participation in the intervention is associated with high work-related flow experiences. Figure 1 provides a graphical representation of our hypothesized model.

This intervention study contributes to the literature in three ways. First, we examine the concomitant role of a wide array of personal and social beliefs on the development of intentions to engage in job crafting and subsequent behaviors. Research on the antecedents of job crafting is rich; however, no previous studies accounted for a broad range of concomitant individual and contextual beliefs in driving job crafting and how these beliefs shape behavioral outcomes. On the other side, research on the TPB has to date neglected the investigation of the trajectories of change in intention, limiting understanding of how motivational variables and intervention initiatives may have a role in shaping such trajectories. Explaining and predicting employees’ trajectories of intentions and their link with job crafting is crucial if effective and informed positive interventions are to be developed.

Second, we enrich the literature on job crafting by devising and testing a positive psychology intervention based on the TPB (Ajzen, 1991) on job crafting and flow at work. In doing so, we shed light on the psychological processes occurring during job crafting interventions, which allows testing if the intervention design is effective and why, contributing to detail the psychological mechanisms of intervention effectiveness. Besides, by investigating the link between a theory-driven intervention design and employees' positive psychological states at work (i.e., work-related flow), this study deepens knowledge on whether such interventions can support not only behavioral outcomes but also employees' motivation.

Third, we investigate how a specific technique, that is, the development of implementation intentions, can be used to support employees in consciously modulating their job crafting intentions and behaviors. While researchers agree that job crafting, as a proactive behavior, is intentional (Bruning & Campion, 2018), previous job crafting intervention studies did not explicitly target behavioral intention, that is, the main determinant of behavior (Webb & Sheeran, 2006). However, by targeting intentions, interventions are likely to be more effective (Lin et al., 2017) because they pinpoint the critical determinant of behavior (Sheeran, 2002). By explicitly focusing on intentions and on the development of coping strategies to modulate intentions in the face of self-regulatory problems during goal striving, this study goes further previous research using proactive goal setting (e.g., van Wingerden, Bakker, & Derks, 2017) and provides evidence on the effects of weekly implementation intentions (Gollwitzer & Sheeran, 2006) on goal attainments regarding job crafting behaviors.

## Theoretical Background

### *Behavioral Job Crafting*

Job crafting encompasses employee-driven job redesign whereby employees “craft” their work with the final aim of enhancing meaning and maintaining a positive identity by aligning work with their abilities, needs, and preferences (Wrzesniewski & Dutton, 2001). Through job crafting, individuals make physical and cognitive changes in the task and relational boundaries of their work (Wrzesniewski & Dutton, 2001). Later, building on the notion of job crafting as an *action* (Wrzesniewski & Dutton, 2001), scholars delved into the specific activities that employees enact to change their work characteristics, to finally improve one's well-being (Berg et al., 2010). This led to the definition of job crafting as a proactive self-management process whereby employees adjust the levels of their perceived job demands and resources (Bruning & Campion, 2018). Since its inception in the academic literature (Wrzesniewski & Dutton, 2001), job crafting has known various definitions and conceptualizations (Zhang & Parker, 2019). This ambiguity was addressed by a recent meta-analysis (Lichtenthaler & Fischbach, 2019), which found that all current job crafting conceptualizations comprise changes in the work structure and content through expansion-oriented and contraction-oriented strategies. *Expansion* strategies aim to make work more resourceful and challenging, whereas *contraction* ones focus on decreasing the demanding job

aspects (Costantini et al., 2019). Studies show that expansion job crafting relates positively to health, motivation, and performance, while contraction job crafting is negatively or not related to the same outcomes (Demerouti et al., 2015; Lichtenthaler & Fischbach, 2019; Rudolph et al., 2017).

In this intervention study, we build on the JD-R perspective to job crafting (Tims & Bakker, 2010) that focuses on job crafting as a way for employees to alter the job characteristics and balance job demands and resources through a set of behaviors, that is, behavioral job crafting (Costantini et al., 2019; Zhang & Parker, 2019). Such a perspective allows for identifying specific behaviors through which employees craft their work, thus providing a clear framework for developing our behavior change intervention study. Specifically, on account of its favorable effects on work outcomes, we focus on sustaining proactive employee behaviors consisting of expansion job crafting, that is, seeking resources and challenges, and optimizing demands (Demerouti & Peeters, 2018; Petrou et al., 2012). Crafting job resources could either be increasing structural (e.g., trying to learn new things) or social (e.g., asking for performance feedback) resources. Increasing challenging demands consists of seeking new and challenging tasks at work (e.g., voluntarily taking on new responsibilities or tasks; Hakanen et al., 2018), which sustain motivation, mastering, and learning (Karasek & Theorell, 1990). Finally, optimizing job demands refers to behaviors that actively address hindering job characteristics to make work processes more efficient (Demerouti & Peeters, 2018).

### *Job Crafting Interventions*

While job crafting behaviors generally arise spontaneously among employees who proactively adjust and shape the characteristics of their work environment, initial evidence shows that job crafting can be facilitated and supported through specific interventions (Demerouti, 2014; Oprea et al., 2019; van Wingerden, Bakker, & Derks, 2017). Table 1 presents the results from a literature review we conducted on previous job crafting intervention studies, detailing their theoretical backgrounds and methodological aspects, which are now discussed.

In the literature, the first job crafting intervention consisted of several phases (van den Heuvel et al., 2015), which subsequently served as a blueprint for following job crafting intervention studies (Demerouti et al., 2019). Specifically, the first phase aimed at exploring and mapping the participants' key work characteristics. The second phase consisted of a workshop introducing employees to the JD-R model and behavioral job crafting. Moreover, participants were taught to identify work situations fitted for engaging in job crafting and created a personal plan regarding specific goals to be pursued in the following weeks. In the third phase, participants performed their self-settled crafting actions during the following weeks to reach their job crafting goals referred to different dimensions, that is, seeking resources, decreasing demands, and seeking challenges. Finally, participants reflected and explored their experiences with job crafting during the intervention.

**Table 1.** Job Crafting Intervention Studies.

Authors	Country	Sample	Control group	Measurement points	Theoretical background	Intervention	Job Crafting Scale
van den Heuvel et al. (2015)	NL	$N_{\text{experimental}} = 39$ $N_{\text{control}} = 47$	Y	<ol style="list-style-type: none"> <li>1. Pretest</li> <li>2. 4 Weekly diaries</li> <li>3. Posttest (1 or 2 weeks after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• Job crafting theory</li> <li>• JD-R theory</li> <li>• Social cognitive theory</li> </ul>	<ul style="list-style-type: none"> <li>• 1 Training day</li> <li>• Development of a personal crafting plan (PCP)</li> <li>• Half-day reflection session</li> </ul>	Petrou et al. (2012)
Sakuraya et al. (2016)	JA	$N_{\text{experimental}} = 50$	N	<ol style="list-style-type: none"> <li>1. Pretest</li> <li>2. Posttest</li> <li>3. Follow-up (1 month after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• Job crafting theory</li> </ul>	<ul style="list-style-type: none"> <li>• 2-Hour workshop with PCP</li> <li>• 2-week interval</li> <li>• 2-hour workshop</li> </ul>	Sekiguchi et al. (2014)
van Wingerden et al. (2016)	NL	$N_{\text{experimental}} = 43$ $N_{\text{control}} = 24$	Y	<ol style="list-style-type: none"> <li>1. Pretest (2 weeks before the workshop)</li> <li>2. Posttest (1 week after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• JD-R theory</li> <li>• Job crafting theory</li> </ul>	<ul style="list-style-type: none"> <li>• 3 Training sessions over 5 weeks</li> </ul>	Tims et al. (2012)
Demerouti et al. (2017)	GR	$N_{\text{experimental}} = 30$ $N_{\text{control}} = 42$	Y	<ol style="list-style-type: none"> <li>1. Pretest</li> <li>2. Posttest (4 weeks after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• Social learning theory</li> <li>• Social cognitive theory</li> <li>• JD-R theory</li> </ul>	<ul style="list-style-type: none"> <li>• 3-Hour workshop</li> </ul>	Petrou et al. (2012)
Kooij et al. (2017)	NL	$N_{\text{experimental}} = 31$ $N_{\text{control}} = 55$	Y	<ol style="list-style-type: none"> <li>1. Pretest (2 weeks before the workshop)</li> <li>2. Posttest (2 weeks after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• Job crafting theory</li> <li>• JD-R theory</li> <li>• Self-determination theory</li> </ul>	<ul style="list-style-type: none"> <li>• 4-Hour workshop</li> </ul>	Newly developed scale
van Wingerden, Bakker, & Derks (2017)	NL	$N_{\text{experimental}} = 41$ $N_{\text{control}} = 30$	Y	<ol style="list-style-type: none"> <li>1. Pretest (2 weeks before the workshop)</li> <li>2. Posttest (2 weeks after the workshop)</li> </ol>	<ul style="list-style-type: none"> <li>• Job crafting theory</li> <li>• JD-R theory</li> <li>• Self-determination theory</li> </ul>	<ul style="list-style-type: none"> <li>• 3 Training sessions</li> </ul>	Tims et al. (2012)

(continued)

**Table 1. (continued)**

Authors	Country	Sample	Control group	Measurement points	Theoretical background	Intervention	Job Crafting Scale
van Wingerden, Derks, & Bakker (2017)	NL	N <sub>experimental</sub> = 84 N <sub>control</sub> = 18	Y	1. Pretest (2 weeks before the workshop) 2. Posttest (1 week after the workshop)	<ul style="list-style-type: none"> <li>• JD-R theory</li> <li>• Job crafting theory</li> </ul>	<ul style="list-style-type: none"> <li>• Personal resource intervention: 3 sessions</li> <li>• Job crafting intervention: 3 sessions</li> </ul>	Tims et al. (2012)
Costantini and Sartori (2018)	IT	N <sub>experimental</sub> = 43	N	1. Pretest 2. Posttest (2 weeks after the workshop)	<ul style="list-style-type: none"> <li>• Broaden and build theory</li> <li>• JD-R theory</li> <li>• Job crafting theory</li> </ul>	<ul style="list-style-type: none"> <li>• 3-Day training session</li> </ul>	Tims et al. (2012)
Gordon et al. (2018)	NL	Study 1: N <sub>experimental</sub> = 48 N <sub>control</sub> = 71 Study 2: N <sub>experimental</sub> = 32 N <sub>control</sub> = 26	Y	1. Pretest (1 month before the workshop) 2. Posttest (1 month after the workshop)	<ul style="list-style-type: none"> <li>• Job crafting theory</li> <li>• Job crafting theory</li> <li>• JD-R theory</li> </ul>	<ul style="list-style-type: none"> <li>• 3-Hour workshop</li> <li>• Development of PCP</li> </ul>	Petrou et al. (2012)
Dubbelt et al. (2019)	NL	N <sub>experimental</sub> = 40 N <sub>control</sub> = 38	Y	1. Pretest 2. Posttest (6-week after the workshop)	<ul style="list-style-type: none"> <li>• Job crafting theory</li> <li>• Experimental learning theory</li> </ul>	<ul style="list-style-type: none"> <li>• 4-Hour workshop</li> </ul>	Petrou et al. (2012)

Note. NL = the Netherlands; GR = Greece; JA = Japan; IT = Italy; Y = Yes; N = No; JD-R theory = job demands-resources theory.

Other interventions have been developed and tested based on this design, with occasional minor adjustments compared with the original. For example, Gordon et al. (2018) developed and tested a shorter workshop (3-hour vs. the original 8-hour) and included exercises to stimulate reflection (Demerouti et al., 2019). Another intervention (Kooij et al., 2017) adopted an online application and focused on tasks to be sorted according to time investment and matching with one's strengths, interests, and needs, in line with the Michigan Job Crafting Exercise (Berg et al., 2008). Other examples of job crafting interventions (e.g., van Wingerden et al., 2016; van Wingerden, Bakker, & Derks, 2017) were based on combining elements from the Michigan Job Crafting Exercise and the JD-R theory (Bakker & Demerouti, 2014).

From a theoretical perspective, the first job crafting intervention was based on some components of SCT (Bandura, 1989), and subsequently integrated with elements from experiential learning theory (Kolb et al., 2001) and situated experiential learning narratives (Benner, 1984). Specifically, while in the first interventions the focus was on building on participants' past experiences to facilitate the learning process via reflection and energy investment, subsequently an exercise was added that built on the use of experiential narratives to increase participants' understanding of how their work behaviors represent forms of job crafting (Gordon et al., 2018). Other major theories used include self-determination theory (Deci & Ryan, 2000), psychological capital theory (Luthans et al., 2006), and the conservation of resources (Hobfoll, 2002).

Overall, most previous job crafting intervention studies built on the notion that individuals are motivated by self-generated goals and act to achieve those goals. However, none of such studies provides a direct empirical test of the assumed theoretical mechanisms for behavior change. Thus, it remains unclear whether job crafting interventions can be designed as behavioral change initiatives aimed to sustain beliefs fuelling job crafting intentions, and enhance employees' ability to initiate, maintain, if needed disengage from, and eventually undertake further goal striving referred to job crafting, eventually prompting higher well-being at work.

### *The Theory of Planned Behaviour*

A major theoretical model developed to explain and predict people's intentions and behaviors and design behavior change interventions is the TPB. Like sociocognitive theory, this model is content-free in that it contains a relatively small number of constructs that can be applied to study behavior across different domains, where content is provided through the application of the theory itself (Ajzen, 1998). Arguably, the main difference between sociocognitive theory and the TPB lies in the degree of differentiation, with the former being divided into a greater number of corresponding variables compared with the TPB (Ajzen, 1998). Accordingly, in light of our aim of studying a broad yet exhaustive range of psychological beliefs guiding job crafting, we deemed the TPB a more parsimonious framework than sociocognitive theory and adopted it for the sake of simplicity.

According to the TPB, the primary driver for behavior is the person's decision to act, or behavioral intention (e.g., "I intend to ask my supervisor for advice on the new



project”), which in turn is a function of underlying motivational variables, that is, attitudes, social norms, and perceptions of behavioral control. Attitudes refer to people’s overall assessment of the advantages and disadvantages of their performing the behavior (e.g., “For me, asking my supervisor for advice would be worthwhile/not worthwhile”). Subjective norms refer to either people’s perceptions of social pressure from significant others to perform the behavior, that is, injunctive norms (e.g., “Most people in my work environment who are important to me think that I should ask for advice when uncertain”) or to observed contextual cues informing what is appropriate in a given environment, that is, descriptive norms (e.g., “Most people in my work environment who are important to me ask for advice when uncertain”). Perceived behavioral control refers to employees’ perceived degree of difficulty in performing a behavior and ability to perform it (e.g., “For me obtaining feedback from my supervisor would be easy/difficult”). The more positive attitudes, subjective norms, and perceived behavioral control, the stronger the intentions to perform the behavior. In turn, the stronger people’s intentions, the higher the likelihood of performing the behavior (Sheeran & Silverman, 2003).

Given the nature of job crafting as a proactive, that is, intentional, behavior, we propose that the motivation underlying it can be understood from the lens of the TPB. This is especially the case given the self-relevance of job crafting compared with the organizational focus of other proactive work behaviors (Niessen et al., 2016; Tims & Parker, 2020; Wrzesniewski & Dutton, 2001), such as taking charge (Morrison & Phelps, 1999), personal initiative (Frese & Fay, 2001), or organizational citizenship (Organ, 1988). These related concepts focus on problem solving, supporting the organization, or both. For job crafters, the final aim of their job crafting behaviors is personal and centers on benefitting the self, from which the crucial role of individual beliefs informing intentions to act. Thus, individuals are likely to craft their work based on their beliefs regarding expectations about whether certain behaviors will help them reach their personal purpose. Accordingly, we expect that attitudes, social norms, and perceived behavioral control will be positively related to intentions referred to job crafting behaviors because such variables build the motivational impetus that drives intentions.

**Hypothesis 1:** (a) Attitudes, (b) descriptive, (c) injunctive social norms, and (d) perceived behavioral control referred to job crafting measured before the intervention will relate positively to weekly intentions to engage in job crafting in both groups.

Also, we expect employees’ baseline sense of control and efficacy regarding how to craft their job to be a direct predictor of job crafting because the nature of such behaviors as proactive does not impose severe problems of control over behavioral engagement (Ajzen, 1991). Previous findings showed that self-efficacy, a component of perceived behavioral control (Ajzen, 2002), is a significant predictor of job crafting (Niessen et al., 2016; Tims et al., 2014), which further support such hypothesis.

**Hypothesis 2:** Baseline perceived behavioral control referred to job crafting will relate positively to postmeasure of job crafting behaviors in both groups.

In line with the theoretical proposition of the TPB and evidence showing that intention is a significant predictor of behavior (Steinmetz et al., 2016), including job crafting (Bipp & Demerouti, 2015), we expect postmeasures of job crafting to be determined by weekly intentions. Accordingly, we expect that weekly intentions will positively influence the extent to which employees will craft their job in an expansion-oriented way at the end of the study.

**Hypothesis 3:** Weekly intentions to engage in job crafting will relate positively to employees' postmeasures of engagement in job crafting in both groups.

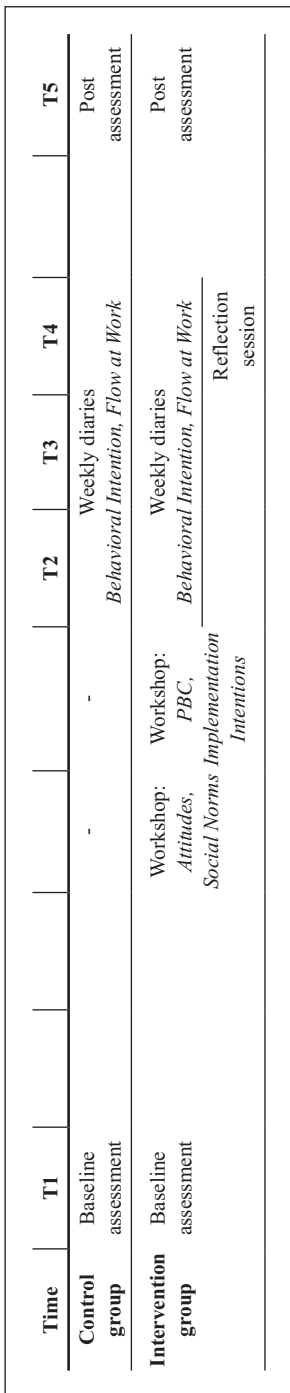
**Hypothesis 4:** Integrating Hypothesis 1 and Hypothesis 3, weekly intentions will mediate the effects of attitudes (a), descriptive, (b) injunctive, (c) social norms, and (d) perceived behavioral control on job crafting behaviors.

Figure 2 shows a graphical representation of the research design.

### ***Behavior Change: Motivational and Volitional Phases***

Two aspects of behavior change can be identified from the lens of the TPB, that is, the motivational and the volitional phases (Ajzen, 2015). During behavioral change initiatives, the *motivational* phase focuses on the drivers of intentions, that is, attitudes, social norms, and perceived behavioral control, to make them more accessible and, if needed, more positive. Here, the aim is to form or strengthen preexisting intentions by targeting the behavioral, normative, and control beliefs that shape them. Differently, the *volitional* phase aims at allowing the implementation of already formed intentions and focuses on enabling people to translate them into actual behaviors. That is, once an intention is formed and strengthened, participants must have the means to translate it into actions (Steinmetz et al., 2016).

Moreover, besides developing action plans, it is critical to help people follow through with their intentions and achieve their behavioral goals. In this regard, research suggests that a key feature of the volitional phase is implementation intention formation, or a plan to perform a behavior at a particular time and place (Gollwitzer, 1999). This is because intention alone does not guarantee goal achievement, as people may fail to effectively deal with self-regulatory problems during goal striving (Gollwitzer & Sheeran, 2006). Implementation intentions involve developing a strong mental association between a situational cue and a specific behavior, allowing people to pass on control of goal-directed activities from the self to the environment (Gollwitzer, 1999). Research shows that implementation intentions effectively promote the initiation of goal striving, shielding ongoing goal pursuit from unwanted influences, disengaging from failing courses of action, and conserving capability for future goal striving (Gollwitzer & Sheeran, 2006). Accordingly,



**Figure 2.** Graphical representation of the study design.

Note. PBC = perceived behavioral control.

implementation intentions are an effective strategy to initiate and maintain the course of action leading to goal attainment.

### *A Behavior Change Intervention for Job Crafting*

Against this background and drawing on the TPB, we designed a job crafting intervention to comprehend both a motivational and a volitional phase, and including implementation intentions. Overall, in the first motivational workshop, the goal was to focus on improving employees' positive attitudes toward self-management of job demands and resources, encouraging exploration of significant others' perceptions and expectations regarding such behaviors, and enhancing a sense of personal control over one's engagement in job crafting behaviors. Afterward, the volitional session of the intervention focused on behavioral skills that help employees initiate and maintain activity planning and included the formation of implementation intentions. The contents and structure of the two sessions are detailed in Tables 2 and 3. The tables feature the behavioral change techniques (cf. Michie et al., 2013) used to work on each theoretical construct and the individual, couple, or small group dimension of each technique.

The described job crafting intervention was designed to sustain the main determinants of job crafting behaviors, that is, intentions and their antecedents. Accordingly, we expect that participants in the intervention will: (a) develop more positive behavioral, normative, and control beliefs toward job crafting and higher awareness regarding them and (b) acquire the techniques to be aware of their engagement in job crafting behaviors, to self-manage their crafting plans, and face possible obstacles and barriers when trying to pursue them.

**Hypothesis 5:** Participation in the intervention will increase (a) attitudes, (b) descriptive, (c) injunctive social norms, and (d) perceived behavioral control from pretest to posttest and compared with the control group.

By developing higher awareness of the positive outcomes deriving from job crafting and strengthening positive beliefs concerning it, we also expect participants in the intervention to develop higher intentions to engage in job crafting compared with the control group. Moreover, we expect participants in the intervention to be more aware of how their intentions can be used to sustain change-oriented behaviors in the workplace. Being involved in a training session on implementation intentions, participants will learn to recognize and modulate their weekly intentions to engage in job crafting and drive their efforts to change-oriented behaviors effectively. Accordingly, participation in the intervention will influence changes in weekly intentions, such that participants will be able to respond flexibly and adaptively to contextual cues.

**Hypothesis 6:** Participation in the intervention will positively influence (a) weekly initial levels and (b) weekly changes in behavioral intentions to engage in expansion job crafting following the workshops.

**Table 2.** Overview of the Intervention (4-Hour Motivational Workshop).

Theoretical constructs	Behavior change techniques	Exercise dimension
1. JD-R	<ul style="list-style-type: none"> <li>• Mapping and identifying resources, demands, and behaviors referred to expansion-oriented job crafting behaviors</li> </ul>	Individual
2. Attitudes	<ul style="list-style-type: none"> <li>• Reflection on the consequences, in terms of levels of energy at work, of engaging in expansion-oriented job crafting behaviors</li> <li>• Reflection on individual reactions related to engaging in expansion-oriented job crafting behaviors</li> <li>• Listing the pros and cons of expansion-oriented job crafting behaviors</li> </ul>	Individual
3. Social norms	<p>After participants' random assignment to groups of up to five people, they shared their previous job crafting experiences and:</p> <ul style="list-style-type: none"> <li>• Discussed others' perceived approval regarding their expansion-oriented job crafting behaviors</li> <li>• Discussed practical and emotional support experienced when engaging in expansion-oriented job crafting behaviors</li> <li>• Took notes of insights from others' behavioral strategies that they found valuable to increase well-being</li> </ul>	Small groups (<5 participants)

Note. Behavior change techniques are described according to Michie's et al. (2013) taxonomy. JD-R = job demands–resources theory

### Effects of the Intervention on Flow at Work

Overall, we expect that participants in the intervention will develop and get acknowledged with a set of behavioral tools and techniques, allowing them to balance their resources and job demands effectively. When employees experience a balance between the challenges of a task and the skills needed to face such challenges, they may experience work-related flow (Csikszentmihalyi, 1975): a short-term peak experience at work, characterized by absorption, work enjoyment, and intrinsic work motivation (Bakker, 2008). *Absorption* refers to total concentration and immersion in the activity, *work enjoyment* refers to the outcome of cognitive and affective evaluations of the work-related flow experience, and *intrinsic work motivation* refers to a state in which employees engage in the work activity to experience the inherent pleasure and satisfaction from it deriving.

Research has shown that flow at work fuels one's energy after a workday (Demerouti et al., 2012) and that motivating job characteristics are correlated with the experience

**Table 3.** Overview of the Intervention (3-Hour Volitional Planning Session).

Theoretical constructs	Behavior change techniques	Exercise dimension
1. Perceived behavioral control	Action planning: <ul style="list-style-type: none"> <li>• Creation of three plans (one for each crafting behaviors) specifying:               <ul style="list-style-type: none"> <li>○ what behavior (referring to seeking resources and challenges, and optimizing demands)</li> <li>○ when (day of the week)</li> <li>○ during which working task</li> <li>○ with whom and where (place) behavioral engagement would have happened</li> </ul> </li> </ul>	Individual
2. Implementation intentions	Coping planning: <ul style="list-style-type: none"> <li>• Identifying barriers that might be encountered when trying to engage in job crafting</li> <li>• Generating strategies to overcome identified barriers</li> <li>• Writing down implementation intentions referred to job crafting expansion behaviors</li> </ul>	Individual and final discussion in small groups
3. Self-monitoring and social support	Visualizing job crafting behavioral goals by writing them on a provided calendar <ul style="list-style-type: none"> <li>• Identifying a “buddy” with whom to discuss settled goals, give and receive feedback on crafting goals, discuss in the following weeks about experiences of meeting or not personal crafting goals.</li> </ul>	Individual Couples

Note. Behavior change techniques are described according to Michie’s et al. (2013) taxonomy.

of flow at work (Demerouti, 2006). Accordingly, scholars argued that to support employees’ work-related flow, organizations should promote job redesign approaches that allow employees to experience autonomy, task identity and significance, and solving challenging problems or expressing creativity (Demerouti et al., 2012; Fullagar & Kelloway, 2009). By participating in the intervention, we expect that employees will experience a better balance between job demands and resources because of increased knowledge of job crafting strategies that can be used to craft one’s work in an expansion-oriented way. Thus, work should become more challenging and stimulating in a way that is balanced with one’s abilities. Eventually, this will reflect in high experiences of work-related flow because of increased perceptions of working at full capacity with intense engagement and a skill-demand match (Nakamura & Csikszentmihalyi, 2002).

**Hypothesis 7:** Participation in the intervention will positively influence weekly work-related flow in terms of (a) absorption, (b) work enjoyment, and (c) intrinsic motivation.

## Method

### *Research Design, Participants, and Procedure*

This study applies a quasi-experimental design with an intervention and a control group that received no intervention (as described below) during the study period. The research design included a preassessment–postassessment of the study variables in both groups, two workshops (intervention group only), weekly self-settled assignments (intervention group only) and weekly diaries (both groups), and a final reflection session (intervention group only).

Participants in the study were all white-collar employees in Italy. Interventions were conducted in two organizations operating in the manufacturing sector (39.5% of the participants in the intervention group), one health care organization (15.1% of the participants in the intervention group), one organization providing services for teachers (13.3% of the participants in the intervention group), and two organizations operating in the social services (32.1% of the participants in the intervention group). Despite the differences in the organizations participating in the study, all participants were white-collar workers performing professional or administrative work. By involving different organizations, we aimed at improving heterogeneity, related external validity, and generalization of our results to different work settings and cultures (Cook & Campbell, 1979; Ferguson, 2004). Potential participants were recruited via a message on the organizations' intranet and other communication channels (i.e., internal news, leaflets, and social networks). Participation in the workshops was voluntary, and participants were not paid. Yet every participant received a certificate validating their participation as a nonformal and informal learning initiative. The study took place over 8 weeks (see Figure 2 for an overview of the research design).

Participants who agreed to participate in the study were assigned to either a waiting list control condition or the experimental condition. Since participants' randomization to the two groups was not possible due to practical restraints, this is a quasi-experimental field study (Cook & Campbell, 1979; Grant & Wall, 2009). *t* Tests comparing the two groups at Time 1 (T1) are reported in Table 4. As can be seen, the two groups did not display significant differences in the motivational variables, while they did differ in job crafting behaviors at T1. Accordingly, in our analyses, we accounted for the role of premeasures of job crafting. Participants in the control group were not aware that they were part of the control condition and were offered the chance to participate in the workshops after the study. Participants who decided to participate in the workshops when the study was over were invited to pursue their weekly goals and provided a copy of the booklet described below to aid goal achievement. However, in this case, no quantitative data (i.e., measures concerning the variables in this study) were collected. Attrition over the course of the study was low. Only one participant abandoned the study after the first workshop, while two participants in the intervention group were lost to the reflection session and communicated that this was due to other work obligations. The study procedure complied with APA's policy of ethical treatment of participants. Two weeks before the workshops, participants in both groups

**Table 4. Descriptive Statistics and t Tests for the Study Variables (N = 103).**

Variable	T1			T2			T3			T4			T5								
	Intervention group		Control group	Intervention group		Control group	Intervention group		Control group	Intervention group		Control group	Intervention group		Control group						
	M	SD	t	M	SD	t	M	SD	t	M	SD	t	M	SD	t						
Attitudes	5.87	1.00	5.65	1.20	1.02								5.86	1.19	5.26	1.22	2.53**				
Descriptive norms	3.42	1.22	3.20	1.51	0.83								3.78	1.15	3.13	1.20	2.89**				
Injunctive norms	3.78	1.18	3.56	1.50	0.82								3.79	1.16	3.47	1.31	1.35				
PBC	4.80	1.30	5.03	1.47	-0.86								5.08	1.14	4.78	1.41	1.20				
Intention							4.84	1.13	4.59	1.27	1.10	4.69	1.24	4.30	1.27	1.73	4.81	1.16	4.15	1.28	2.88**
Absorption							4.20	1.07	3.29	1.41	3.73***	4.12	1.03	3.33	1.43	3.24**	4.21	0.99	3.26	1.47	3.92***
Work enjoyment							3.78	0.73	3.80	1.27	-0.12	3.83	0.84	3.72	1.15	0.55	4.03	0.86	3.71	1.17	1.58
Work motivation							4.00	1.21	3.78	1.39	0.87	3.98	1.21	3.74	1.45	0.90	4.00	1.32	3.69	1.52	1.14
JC behaviors	4.19	1.06	3.75	1.10	1.96*												4.31	0.96	3.74	1.11	2.82**

Note: PBC = perceived behavioral control; JC = job crafting; T = Time.

\* $p \leq .05$  \*\* $p \leq .01$  \*\*\* $p \leq .001$



received an invitation via email with the link to the first online questionnaire, including demographics and pretest (T1) for our measures. This resulted in  $N = 108$  returns—response rate 76%, of which  $n = 53$  in the experimental group (77% females;  $M_{age} = 43.98$ ,  $SD = 10.69$ ;  $M_{tenure} = 17.25$ ,  $SD = 13.01$ ) and  $n = 55$  in the control group (51% females;  $M_{age} = 39.89$ ,  $SD = 14.17$ ;  $M_{tenure} = 14.16$ ,  $SD = 11.71$ ). Participants in the two groups did not differ in age,  $t(105) = 1.68$ ,  $p = .10$ , nor tenure,  $t(101) = 1.27$ ,  $p = .21$ . However, a chi-square test of independence comparing the frequency of women and men in the two groups showed that the distribution of gender was unbalanced between the two groups,  $\chi^2(1) = 7.81$ ,  $p = .01$ . The two groups did not differ as for work contract,  $\chi^2(6) = 3.75$ ,  $p = .71$ , but the two groups did report a significantly different distribution in educational level,  $\chi^2(6) = 16.08$ ,  $p = .01$ , with participants in the intervention reporting higher frequencies for higher educational attainments. Accordingly, in our analyses, we controlled for gender and educational level. Overall, 61% of the participants had a full-time, permanent contract, and 55% of the participants hold a high school diploma.

### Intervention Procedure

The first author, a licensed<sup>1</sup> work and organizational psychologist and experienced trainer, together with two other licensed psychologists, experienced trainers, delivered the workshops. All trainers detailed the contents of both workshops in a standardized logbook, which served as a guide for the delivery of each workshop.

At the beginning of Week 3, participants in the experimental group took part in a 4-hour job crafting workshop, delivered in Italy, in groups of up to 15 employees. A booklet written in Italian was provided to each participant, which was designed to target the contents of the workshops, including (a) the meaning of job crafting and the factors influencing well-being at work, (b) a section referred to how job crafting is linked to well-being, (c) a part on the contextual and social boundaries of job crafting, and (d) a planning sheet, designed to set goals and implementation intentions.

The first workshop was designed to strengthen participants' intentions to engage in expansion job crafting by increasing positive attitudes and social norms regarding the possible strategies to self-manage job demands and resources. The following behavior change techniques (cf. Michie et al., 2013) were used to stimulate awareness and positive beliefs regarding job crafting. First, participants were introduced to the meaning of job crafting and supported in identifying and understanding how work behaviors may represent different forms of job crafting. After that, the session was focused on making participants aware of their *attitudes* toward such proactive, work-related behaviors and reinforcing the positive ones. Facilitators helped map identified behaviors as seeking resources and challenges, and optimizing demands, and guided reflections on their consequences, with particular regard to work-related well-being. The social and emotional consequences of such behaviors were discussed in small groups, and participants individually listed the pros and cons of their past job crafting behaviors on their booklets.

Following, participants were randomly assigned to groups of up to five people to facilitate active participation and discussion in sharing experiences and beliefs. Specifically, they were guided to share their beliefs about the contextual and informal processes informing job crafting behaviors in the organization, that is, *social norms*, followed by group discussions about others' approval of said behaviors and practical and emotional support experienced. At the end of these guided group discussions, all participants identified a "buddy" helping identify possible helpful behavioral strategies to be carried out to make the work experience more engaging.

The week after the first workshop, that is, at the beginning of Week 4, employees assigned to the experimental group participated in a 3-hour session focused on supporting behavioral goal attainment through increased *perceived behavioral control* and the development of *implementation intention*. First, participants were guided to recall the contents of the previous workshop by making use of their booklets. Then, to promote action planning, participants were asked to create plans for each job crafting strategy, specifying what behavior (seeking resources/challenges, optimizing demands), when (day of the week), during which working task, with whom and where (place) they would pursue their behavioral intentions.

Next, to promote coping planning, participants were asked to identify barriers that they might have encountered when trying to engage in expansion job crafting and generate strategies to overcome them. Two such examples were given: ". . . and if the feedback meeting with my supervisor gets canceled, so I do not know whether s/he satisfied with my work, then I will write to her/him an email"; ". . . and if an interesting project comes along when my workload is high, so I feel like I cannot manage it all, then I will sit down at my desk and outline my priority tasks." Then, participants were asked to write down their implementation intentions related to their job crafting behaviors. To encourage self-monitoring, the last part of the booklet included a calendar for a month where participants were asked to indicate the job crafting behavioral strategies they would have engaged in in the following 3 weeks.

At the end of each week following the 3-hour goal-setting session, participants in both groups completed a questionnaire measuring job crafting intentions and flow at work. Finally, in Week 8, a posttest questionnaire (T5) was sent to participants in both groups to measure attitudes, social norms, perceived behavioral control, and job crafting behaviors.

## Measures

All measures and materials were administered in Italian. Adapted materials (e.g., contents in the booklet, definitions, and workshop exercises) that were originally developed in English and were not available in Italian were translated using the forward-backward translation method (Behling & Law, 2000). To do so, a bilingual speaker who was not familiar with the exercises and contents translated the original versions into Italian. Then, another bilingual speaker back-translated the same materials into English. This process gave not rise to significant changes, so the researchers

concluded that the Italian version of the materials was consistent with the original one in meaning.

*TPB* constructs referred to *job crafting*. In this study, we used direct measures of the psychological constructs of the *TPB*, that is, we asked respondents about their overall job crafting attitudes, social norms, perceived behavioral control, behavioral intention, and job crafting behaviors (as detailed below), rather than indirect measures, e.g., asking respondents about specific behavioral beliefs referred to job crafting and its outcome evaluations. Direct and indirect measurement approaches make different assumptions about the underlying cognitive structures, and neither approach is perfect. Given that, in this study, we were focused on understanding the role of different beliefs over intentions and subsequent behaviors while keeping the questionnaire as short as possible, using direct measures of the constructs of the *TPB* represented a recommended choice (Francis et al., 2004).

Our scales were developed based on Fishbein & Ajzen's instructions (2012). Before starting the project and collecting baseline measures, we conducted interviews with the human resources departments from the organizations involved to introduce job crafting, get to know potential participants' job activities, and discuss whether and how job crafting represented feasible work behaviors. In each organization, we were provided with the contacts of three employees whom we asked to complete an open-ended pilot questionnaire. These respondents were subsequently not included in the intervention, nor the control group. In this phase, we first presented respondents with a definition of job crafting<sup>2</sup> translated into Italian. Then, we asked them to list possible examples of it, report their expected behavioral outcomes (advantages, disadvantages, and thoughts), individuals or groups who would approve or disapprove, and engage in each behavior, and factors and circumstances that would make it difficult or easy to engage in such behaviors.

Based on a content analysis of the results from such questionnaires, we considered the following behaviors referred to seeking resources, seeking challenges, and optimizing demands: "I ask my supervisor for advice" and "I ask others for feedback on my job performance" (seeking resources), "I ask for more responsibilities" (seeking challenges), and "I improved work processes to make my job more efficient" (optimizing demands). Based on research showing the formative nature of job crafting as composed of expansion-oriented strategies (Costantini et al., 2019), we averaged scores of each of our variables as referring to an overall job crafting construct.

As for *attitudes*, assessed at premeasure and postmeasure, participants were asked to evaluate each behavior on a 7-point semantic differential (1 = *exhausting*; 7 = *motivating*). A factor was calculated so that higher scores indicated respondents' overall more positive evaluation of job crafting behaviors. Cronbach's  $\alpha$  were .78 at T1 and .82 at T5.

To measure *descriptive norms*, assessed at premeasure and postmeasure, participants indicated how often other employees in the organization themselves perform each job crafting behavior (1 = *never*; 7 = *always*). Cronbach's  $\alpha$  were .87 at T1 and T5.

*Injunctive norms* were measured at preassessment and postassessment by asking participants to indicate whether other people working in the organization whose

opinion was valued by the respondent thought each behavior to be appropriate. Responses were given on a 7-point scale (1 = *not appropriate*; 7 = *appropriate*). Cronbach's  $\alpha$  were .88 at T1 and T5.

*Perceived behavioral control* was measured at preassessment and postassessment by asking participants to indicate the extent to which they thought it would be possible for them to be engaged in each of the listed job crafting behaviors. Responses were given on a 7-point scale (1 = *impossible*; 7 = *possible*). Cronbach's  $\alpha$  were .84 at T1 and T5.

*Behavioral intention* was measured at the end of each week by asking participants to indicate how likely they were to engage in each job crafting behavior in the forthcoming week. Only for Time 4 (T4), the instruction asked about intentions referred to the coming weeks. Participants responded on a 7-point scale (1 = *extremely unlikely*; 7 = *extremely likely*). Cronbach's  $\alpha$  were .83 at Time 2 (T2), .82 at Time 3 (T3), and .81 at T4.

*Job crafting behavior* was measured at preassessment and postassessment by asking participants to indicate the extent to which they engage in each listed behavior in the past week on a 7-point scale (1 = *never*; 7 = *every day*). Cronbach's  $\alpha$  were .84 at T1 and T5.

*Weekly flow at work* was assessed at the end of each week with items from the Italian version of the Work-related flow inventory (Zito et al., 2015). Participants were asked to report their experiences in the past week on a 7-point scale (1 = *never*; 7 = *always*). Three items per each dimension were used. For absorption (Cronbach's  $\alpha$  at T2 and T3 = .91, at T4 = .93), an example item is "*I am totally immersed in my work*"; for work enjoyment (Cronbach's  $\alpha$  at T2 and T3 = .90, and T4 = .91), an example item is "*I feel happy during my work*"; for intrinsic work motivation (Cronbach's  $\alpha$  at T2 and T3 = .78, at T4 = .83), an example item is "I get my work motivation from work itself, and not from the rewards for it." All items were rephrased to measure work-related flow on a weekly basis, that is, respondents indicated how often they experienced work-related flow during the past week, with items being reframed in the past and introduced by "In the past week . . ."

## Configural Invariance

Before testing our hypotheses, we run a series of measurement invariance tests for our variables measured longitudinally using *Mplus* version 8.4 (Muthén & Muthén, 1998–2017).

Confirmatory factor analyses conducted at T1 and T5 including attitudes, injunctive and descriptive norms, perceived behavioral control, and job crafting behavior revealed in both cases a good fit for a five-factor model, T1:  $\chi^2(126) = 188.26$ , comparative fit index (CFI) = .96; Tucker–Lewis index (TLI) = .94; standardized root mean square residual (SRMR) = .05; T5:  $\chi^2(126) = 242.51$ , CFI = .94; TLI = .90; SRMR = .06. Besides, confirmatory factor analyses were conducted for weekly measures, that is, intentions and flow at work. Flow at work was modeled as a second-order factor, with work enjoyment, absorption, and intrinsic motivation as first-order factors. Such an overall model showed good fit (Hu & Bentler, 1999) at different time points, T2:  $\chi^2(61) = 112.47$ , CFI = .94;

TLI = .92; SRMR = .06; T3:  $\chi^2(61) = 126.61$ , CFI = .93; TLI = .91; SRMR = .08; T4:  $\chi^2(61) = 135.69$ , CFI = .92; TLI = .90; SRMR = .08.

## Data Analyses

Latent growth curve (LGC) modeling combined with a path model was used to test the theoretical relationship of the TPB (Hypotheses 1-3), including the mediating role of intentions (Hypothesis 4) and the effects of the intervention on weekly intentions (Hypothesis 6) and work-related flow (Hypothesis 7). To do so, we created a dummy variable where participants in the intervention group were coded 1, and participants in the control group were coded 0.

We built our LGC model as follows. First, we tested a basic LGC model of intentions where we created a latent factor (Intercept) constrained to be constant for any individual across time by fixing values of 1 for factor loadings on the repeated weekly measures of our diary variables. Then, we used another latent variable (Slope) to represent the individual's trajectories of change in intentions. Paths from the Slope to the repeated weekly observed scores were used to indicate the rate of time, fixing loadings to 0, 1, and 2, given that our measures were collected for three consecutive working weeks, every week on the same workday (Friday). Slope and Intercept were allowed to covary (Duncan & Duncan, 2009). Preliminary testing showed that a linear model fits the data better than other shapes of growth over time.

We then included five additional paths from our observed predictors (i.e., attitudes, descriptive and injunctive norms, perceived behavioral control, and intervention) to the Intercept and Slope, and from the Slope and the Intercept to our observed postmeasure of expansion job crafting. Based on Hypothesis 2, we also included a path from T1 perceived behavioral control to T5 job crafting. Moreover, we controlled for the role of baseline job crafting on postmeasured job crafting by adding a path between such variables. Finally, we built a basic LGC model of weekly work-related flow<sup>3</sup> using the same procedure described for intentions and added a path from the intervention variable to the intercept and the slope of work-related flow.

The effects of the intervention over time and compared with the control group (Hypotheses 5) were investigated using mixed two-way repeated-measures analyses of variance (RM-ANOVA) with time by group (intervention and control) design. The within-person factor was time, and the between-person factor was the assigned condition. The Bonferroni correction factor was used to control Type I error (Bland & Altman, 1995). RM-ANOVAs were run using the complete data set, while for LGC modeling, we used full information maximum likelihood. Analyses were run using SPSS v.21 and AMOS package (Arbuckle, 2014). Model fit was determined based on the model chi-square ( $\chi^2$ ) and the ratio  $\chi^2/df$  with values <3.00, indicating a reasonable fit. The root mean square error of approximation can also be considered (Widaman & Thompson, 2003) because it evaluates the fit of the hypothesized model without comparison to a saturated baseline model (Wu & West, 2010), which is not possible within the multilevel framework (Curran et al., 2010). However, literature shows that root mean square error of approximation with small *df* can be

misleading, and accordingly, it should not be computed for models with low df (Kenny et al., 2015).

## Results

### *Descriptive Statistics*

The means, standard deviations, and results from *t* tests comparing the two groups at different time points are reported in Table 4.

Correlations between premeasures of attitudes, descriptive and injunctive norms, perceived behavioral control, weekly intentions, and postmeasures of job crafting with the overall sample are reported in Table 5. Findings show a positive relationship between baseline attitudes, social norms, perceived behavioral control, and weekly intentions. Also, the relationships between weekly intentions and job crafting measured at the end of the study are significant and positive. Moreover, baseline perceived behavioral control is positively related to job crafting at the end of the study period ( $r = .45; p < .01$ ). Overall, these findings provide initial support for Hypotheses 1 to 3.

### *Latent Growth Modeling*

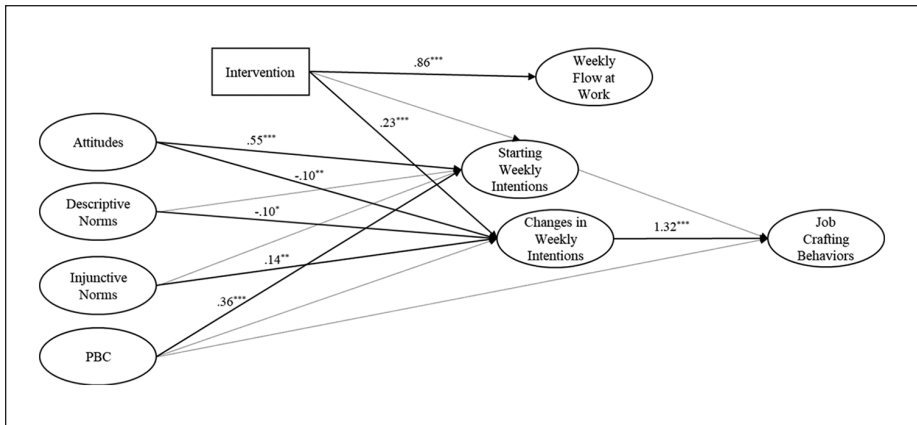
Hypotheses 1-4 built on the TPB to explain how job crafting arises from individual and contextual beliefs, including the role of intentions as mediators between employees' beliefs and job crafting behaviors. Hypothesis 6 proposed that the intervention would have had a positive influence on such intentions. Finally, Hypothesis 7 maintained the effect of the intervention in promoting higher flow at work. We tested such hypotheses simultaneously in an LGM, as described above<sup>4</sup>, controlling for the effect of baseline job crafting behaviors on post job crafting ( $B = 0.58; p < .001$ ). Results from the final model are presented in Figure 3.

The model fit the data well:  $\chi^2(42) = 114.57, p < .001; \chi^2/df = 2.73$ . As shown in Figure 3, baseline attitudes ( $B = 0.55, p < .001$ ) and perceived behavioral control ( $B = 0.36, p < .001$ ) were significant predictors of initial levels of weekly intentions. Baseline descriptive ( $B = 0.08, p = .40$ ) and injunctive norms ( $B = -0.08, p = .44$ ) did not significantly relate to initial intentions. Also, baseline attitudes ( $B = -0.10; p = .01$ ), descriptive ( $B = -0.10; p = .05$ ), and injunctive norms ( $B = 0.14; p = .01$ ) were significant predictors of the rate of change in weekly intentions, providing support for Hypotheses 1. Differently, baseline perceived behavioral control was not significantly related to changes in intentions ( $B = -0.01, p = .87$ ), nor directly related to post job crafting behaviors ( $B = 0.05; p = .51$ ), therefore not supporting Hypothesis 2. Changes in weekly intentions ( $B = 1.32; p < .001$ ), but not initial weekly intentions ( $B = 0.14; p = .13$ ) were significant predictors of postmeasures of job crafting, supporting Hypothesis 3. Bootstrapping was used to estimate confidence intervals (CIs) based on 5,000 bootstrap samples (Hayes, 2009), and bias-corrected bootstrap CIs were computed to test the indirect effects of Hypothesis 4. Results showed that only injunctive norms had a significant indirect effect on job crafting behaviors via weekly

**Table 5.** Correlations for the Study Variables at Premeasure, Weekly, and Postmeasure in the Intervention and Control Groups ( $N = 103$ ).

	M	SD	1	2	3	4	5	6	7	8	9
1. Intervention	0.48	0.50	—								
2. Attitudes T1	5.72	1.11	.08	(.78)							
3. Descriptive Norms T1	3.30	1.37	.09	.50**	(.87)						
4. Injunctive Norms T1	3.62	1.33	.05	.52**	.85**	(.88)					
5. PBC T1	4.91	1.38	-.07	.51**	.59**	.55**	(.84)				
6. Intentions T2	4.68	1.21	.10	.73**	.53**	.50**	.67**	(.83)			
7. Intentions T3	4.47	1.27	.15	.57**	.49**	.47**	.59**	.80**	(.82)		
8. Intentions T4	4.48	1.26	.25**	.61**	.47**	.50**	.58**	.83**	.83**	(.81)	
9. Job Crafting Behaviors T5	4.01	1.07	.27**	.43**	.48**	.45**	.45**	.59**	.65**	.71**	(.84)

Note. Alpha reliabilities are reported in parentheses on the diagonal. Intervention: 0 = control group; 1 = intervention group; PBC = perceived behavioral control; T = Time.  
 \*\* $p < .01$  (2-tailed).



**Figure 3.** Results of the final model.

Note. Unstandardized significant coefficients are reported. The relationship between the intervention and weekly work-related flow refers to the initial weekly levels of absorption. Presented results account for the role of baseline job crafting on job crafting behaviors ( $B = 0.58, p < .001$ ). Intervention dummy coded 1 = intervention group, 0 = control group. PBC = perceived behavioral control.  
 \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .

changes in intentions ( $B = 0.18, 95\% \text{ CI } [.041, .377]$ ) adjusted for differences in initial weekly intentions (von Soest & Hagtvvet, 2011), providing partial support for Hypothesis 4.

The intervention significantly predicted the rate of changes in intentions ( $B = 0.23; p < .001$ ) but not weekly initial levels of intentions ( $B = 0.21; p = .13$ ), which supports Hypothesis 6b but not Hypothesis 6a. The Slope and the Intercept of intention did not

significantly covary ( $\sigma = .02; p = .49$ ), meaning that there was no relationship between participants' initial value of intentions and their rate of change during the weeks.

Finally, the intervention predicted higher initial levels of absorption ( $B = 0.86; p < .001$ ) but not weekly changes in this dimension of work-related flow ( $B = 0.05; p = .56$ ), supporting Hypothesis 7a. Given that preliminary analyses showed that a final LGC model considering the dimension of work enjoyment,  $\chi^2(42) = 168.04, p < .001; \chi^2/df = 4$ , did not fit the data well, Hypotheses 7b is rejected. When considering intrinsic motivation, the fit of the final model was acceptable,  $\chi^2(42) = 92.88, p < .001; \chi^2/df = 2.21$ . Yet this model results showed that the intervention did not predict either higher initial levels ( $B = 0.18; p = .48$ ) or weekly changes ( $B = 0.06; p = .49$ ) of individual motivation. Accordingly, Hypothesis 7c is rejected.

### Mixed Repeated-Measures ANOVAs

Hypotheses 5 stated that participation in the intervention would have increased (a) attitudes, (b) descriptive, (c) injunctive social norms, and (d) perceived behavioral control from pretest to posttest and compared with the control group.

Regarding *attitudes*, results showed that there was a significant main effect for time,  $F(1, 102) = 6.48, p = .01, \eta_p^2 = .06$ , but not for the intervention,  $F(1, 102) = 3.41, p = .07, \eta_p^2 = .03$ . Also, the interaction between time and intervention was not significant,  $F(1, 102) = 3.57, p = .06, \eta_p^2 = .03$ , providing no support for Hypothesis 5a. For *descriptive norms*, results showed that the main effect of time,  $F(1, 102) = 1.56, p = .22, \eta_p^2 = .02$ , and of the intervention,  $F(1, 102) = 2.98, p = .09, \eta_p^2 = .03$ , were not significant. Differently, the interaction term was significant,  $F(1, 102) = 4.67, p = .03, \eta_p^2 = .04$ , lending support for Hypothesis 5b. Specifically, participants' perceptions about positive descriptive norms referred to job crafting increased at the end of the study ( $\Delta M_{T1-T5} = -.29$ ) compared with the control group ( $\Delta M_{T1-T5} = .08$ ). For *injunctive norms*, results showed that the main effects of time,  $F(1, 102) = 0.18, p = .67, \eta_p^2 = .01$ , and of the intervention,  $F(1, 104) = 1.39, p = .24, \eta_p^2 = .01$ , were not significant. Also, the interaction term between time and group was not significant,  $F(1, 102) = 0.48, p = .49, \eta_p^2 = .01$ . Accordingly, Hypothesis 5c is rejected. Regarding *perceived behavioral control*, results show that only the interaction between time and group was significant,  $F(1, 102) = 6.99, p = .01, \eta_p^2 = .06$ , while the main effects of time,  $F(1, 102) = 0.02, p = .90, \eta_p^2 < .01$ , and intervention,  $F(1, 102) = 0.08, p = .78, \eta_p^2 < .01$ , were not. Therefore, Hypothesis 5d is supported. Descriptive statistics showed that while participants in the control group reported a decline in perceived behavioral control over time ( $\Delta M_{T1-T5} = .22$ ), in the intervention group perceived behavioral control was boosted at the end of the study ( $\Delta M_{T1-T5} = -0.24$ ).

### Discussion

This article presented an intervention study designed to support employees' engagement in expansion-oriented job crafting behaviors, based on the TPB (Ajzen, 1991) and



including intervention techniques based on behavior change literature (e.g., implementation intentions; Gollwitzer, 1999). We hypothesized and found that both personal beliefs, that is, attitudes and perceived behavioral control, and social norms, that is, descriptive and injunctive norms, concur in shaping individual intentions to engage in job crafting, which significantly predict job crafting behaviors measured 8 weeks after.

Specifically, results showed that more positive attitudes and higher perceptions of behavioral control were related to higher starting weekly intentions to engage in job crafting. That is, the more positive attitudes, the higher initial intentions to craft one's work, which is aligned with the classical prepositions of the TPB. Moreover, from a dynamic perspective, more positive attitudes were also related to lower rates of intention changes during the weeks, meaning that holding more favorable attitudes led to lower changes in weekly intentions to craft one's work. This may signal that employees who perceived job crafting as leading to positive outcomes developed habits regarding the extent to which they intend to craft their work, resulting in more stable intentions over the weeks.

As for social norms, descriptive and injunctive norms showed opposite patterns with the trajectories of changes in weekly intentions. Participants reporting higher perceptions that significant others frequently engaged in job crafting, that is, descriptive norms, reported lower changes in their own intentions during the weeks. Differently, employees' perceptions about others' approval of job crafting, that is, injunctive norms, served to shape the trajectories of changes in their weekly intentions. With job crafting being eventually a way for employees to revise their work identities and enhance the meaning of their work (Wrzesniewski & Dutton, 2001), these findings suggest that based on participants' goals, the acts through which work is crafted may be questioned more by what a person thinks is valued by others rather than what he/she observes others doing. On the other side, it is also possible that the measures we adopted to assess job crafting in this study did not fully capture the final purpose of job crafting in terms of work meaning. Hence, in the latter case, our findings on the opposite patterns of descriptive and injunctive norms informing job crafting may explain participants' specific behavioral goals rather than job crafting purposes.

Results on the role of the intervention to support high levels of the motivational and volitional variables leading to job crafting showed that participation in the workshops boosted perceptions of control related to job crafting, which otherwise declined over time in the control group. Similarly, participants in the intervention group reported higher levels of positive descriptive norms compared with the control group, and results indicated that the intervention served to boost high levels of descriptive norms and prevent their decrease over time. These findings indicate that participants in the intervention changed their perceptions regarding the extent to which other people in the organization engaged themselves in job crafting, becoming more aware of job crafting behaviors enacted by others. Accordingly, overall results show that the intervention served to support participants' awareness of descriptive norms and enhance control perceptions referred to job crafting.

Besides, we found that participation in the intervention significantly influenced the rate of change of weekly intentions, suggesting that the intervention supported employees' coping plasticity referred to their job crafting intentions, which were then translated into job crafting behaviors. That is, participants might have developed a better capacity to identify situations in which they can optimally expand their work characteristics, rather than stick to initial intentions without evaluating the specific work situation and environment conditions. Hence, providing employees with implementation intentions as a self-regulatory strategy facilitating the initiation of planned responses on encountering critical situations (Bieleke et al., 2018) seems effective in sustaining proactive work redesign behaviors in ever-changing workplaces.

Finally, along with the focus on the theoretical components of the TPB, we proposed that improved awareness of the factors driving job crafting could relate to high flow at work. Results showed that participation in the intervention triggered higher weekly experiences of concentration and immersion in the work tasks, that is, absorption, suggesting that a behavior change intervention to support job crafting can provide employees with the knowledge and tools needed to experience higher awareness and involvement in their work activities. Accordingly, intervention initiatives that build on behavior change to support proactive work redesign can also benefit distal motivational outcomes.

### *Theoretical Contributions*

Our results provide a number of contributions to the literature. First, we specifically examined the theoretical mechanisms of action involved in a job crafting intervention, contributing to unveiling the conditions for intervention effectiveness based on a theory of behavior formation (Donaldson et al., 2019). In doing so, this research contributes to theory-driven evaluation science by detailing the steps and techniques to support behavioral outcomes in the workplace (Chen, 1990; Rogers, 2000). Such an approach allows improving evaluation design further than by only investigating the connection between the intervention and the expected outcomes, providing information about the dynamics that may explain the effects of the intervention (Donaldson et al., 2019). Adopting the TPB to devise a job crafting intervention, this study shows that interventions focused on improving knowledge on the benefits of job crafting and awareness about others' crafting behaviors can be effective in strengthening job crafting habits. However, to support changes in intentions, interventions should target injunctive norms that showed to be significant vehicles of weekly changes in intentions and following job crafting behaviors. Moreover, intervention effectiveness can benefit from the provision of self-regulatory strategies that aid participants in modulating their intentions to craft their jobs depending on the contextual characteristics.

Second, we enrich knowledge on the influence processes serving work goals (Cialdini & Trost, 1998), that is, job crafting as a way to behave effectively, build and maintain relationships, and manage work-related self-concepts. Our results speak to the nature of job crafting as a socially embedded phenomenon at work, for which the broader social work context has a role over job crafting as an individual-level activity

(Tims & Parker, 2020). Specifically, this study contributes to understanding the different roles of injunctive and descriptive norms on intentions to craft one's work. Our findings show that individual intentions are stabilized based on others' observed engagement in job crafting, settling the contextual cues that define one's optimal work functioning within the given work context (Bizzi, 2017). Differently, when it comes to beliefs regarding injunctive norms, employees' perceptions about others' approval of job crafting shaped the trajectories of changes in intentions. Thus, findings suggest that while observing others crafting their work may depict personal work-roles and functioning (Katz & Kahn, 1966), beliefs regarding others' approval of job crafting seem to support a general tendency toward modulating job behaviors to fit the work environment better. Hence, while descriptive norms function as a guide to model one's specific behaviors, resulting in reinforcing behavioral tendencies that proved to be effective, injunctive norms guide behaviors in terms of what is approved, in this case, job crafting, a behavior that is about changing, eventually resulting in shaping trajectories of weekly intentions to craft one's work.

Third, our findings contribute to enriching knowledge on the TPB. Beyond the examination of the validity of the TPB to study job crafting, this research explores different aspects of intentions, that is, its formation and its rate of change, and whether and how these different features of intention relate to following job crafting behaviors. To date, research on the TPB argued that stable intentions are more likely to be enacted than unstable ones (Sheeran et al., 1999). However, research investigating such a hypothesis leveraged on intention stability in terms of within-participants correlations between two time-points (cf. Cooke & Sheeran, 2004), not accounting for change trajectories in intentions over time, within and between individuals. Adopting an LGM to the study of the relationships of the TPB with multiple assessments over several weeks, we depicted the dynamics of intention formation and rate of change. Our results showed that controlling for previous job crafting behaviors (Gollwitzer & Sheeran, 2006), weekly changes in intentions were significant predictors of job crafting behaviors. Also, such weekly changes were stimulated by an intervention that provided participants with self-regulatory strategies to aid goal achievement in the face of dynamic work conditions.

### *Implications for Practice*

By applying theory-based contents to explain how and why specific elements of a job crafting intervention may influence its outcomes, this study provides practical insights to practitioners and human resource managers willing to improve the way work is designed, managed, and experienced by adopting participatory approaches (Nielsen, 2013). As follows, we identify implications for practitioners devising job crafting interventions, coaches adopting a job crafting framework with individual clients, and HR managers willing to improve organizational outcomes.

Generally, job crafting workshops involve setting clear goals on how to craft one's work (Hodson & Baker, 2020). For the design of these initiatives, our research points to the effectiveness of sustaining participants' goal setting through concrete

plans *and* equipping them with strategies to aid goal striving, that is, in our study, implementation intentions (self-regulatory strategies in the form of “if-then plans”; Gollwitzer, 1999). Accordingly, practitioners devising job crafting workshops should consider the inclusion of implementation intention techniques that help identify specific goal-directed behaviors and coping strategies that strengthen the association between relevant critical situations and planned responses rather than mere goals (Duckworth et al., 2011). Besides, coupling goal-setting and goal-striving techniques in job crafting workshops is remarkably advisable in light of evidence showing that high levels of self-efficacy may lead to persistence with failing strategies (Grant & Schwartz, 2011; Whyte & Saks, 2007). While sustaining self-efficacy or perceptions of behavioral control is important to fuel motivation, implementation intentions are a particularly effective strategy for discovering barriers and hindrances that may stand in the way of realizing personal goals (Oettingen et al., 2001). By forming implementation intentions that prompt automatic action initiation, employees free up cognitive resources that may be needed to notice and make use of alternative opportunities to act (Brandstatter et al., 2001) when the originally settled ones are not possible.

Our findings shed light on the role of different beliefs driving changes in the intentions to craft one’s work. Hence, they can inform coaches who build on job crafting to improve professional functioning and facilitate personal effectiveness, development, and growth (Junker et al., 2020). Based on our results, the formation of job crafting habits can be facilitated by increasing personal awareness of (a) its benefits, to improve positive attitudes, (b) others’ involvement in job crafting, to leverage on the effects of descriptive norms as contextual cues informing work adjustment. Differently, to support employees’ changes in their proactive efforts to craft their work, the focus should be on (c) supporting reflection concerning others’ approval of job crafting in the work environment.

Finally, our results support the use of job crafting interventions as a tool to improve employees’ total concentration and immersion in the work activity, which can be beneficial for their work performance and well-being (Demerouti, 2006; Demerouti et al., 2012). Accordingly, interventions leveraging on employees’ agency and increased awareness of the possibilities for personal changes concerning work design can be used to reach positive organizational outcomes. Our findings suggest that such interventions can be effective when they include participatory workshops and, afterward, weekly journaling stimulating reflection and supporting personal goal achievement through both goal-setting and goal-striving techniques.

### *Limitations and Directions for Future Research*

Despite its merits, this intervention study does not come without limitations. First, the behavioral outcomes of our intervention were assessed at only one time-point. Thus, we have no information about the long-lasting effects of the intervention or how personal beliefs and contextual factors may interact with the effects of the intervention over more extended time frames. Future research could include repeated follow-up

measures to understand the effects of the intervention and the trajectories of change in behavioral outcomes over time.

Second, we adopted the JD-R conceptualization of job crafting and focused explicitly on limited job crafting behaviors referring to seeking resources and challenges and optimizing demands. However, there are surely many more examples of job crafting behaviors omitted here due to the limited options used in this study to capture job crafting. Therefore, we have no information about whether and how our intervention could influence other behaviors and dimensions of job crafting, including cognitive crafting or changes in one's role (Zhang & Parker, 2019; Wrzesniewski & Dutton, 2001). Future intervention studies could tailor the structure and contents of our intervention to focus on and support a broader range of job crafting behaviors and strategies.

Third, we compared participants in the intervention group with participants who received no intervention. Future studies could compare more than two groups, including different training conditions, to investigate which intervention is more effective and why. For example, future research could compare the effects of different training, where one may focus only on improving motivational drivers of intention, another only on supporting the volitional aspects of intentions, and another that implements our combined motivational and volitional intervention. By doing so, it would be possible to further understand the contribution of different phases of behavioral formation in improving training effectiveness.

## Conclusion

While job crafting arises from a complex set of psychosocial factors, intervention initiatives that build on behavior change literature can be used to sustain employees' awareness toward such factors and, with this, their ability to consciously modulate intentions toward job crafting behaviors, based on contextual cues. In turn, such increased awareness triggers high experiences of absorption at work. Hence, interventions supporting proactive work redesign based on behavior change techniques can have an effect on more distal outcomes that are not directly targeted by the initiatives themselves, in this case, flow at work.

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## Compliance With Ethical Standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## Declaration of Conflicting Interests

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## Notes

1. In Italy, all psychologists practicing in organizations or privately are required to register with the national Albo degli Psicologi. At the time of study, qualifications required to register included a Master's degree in Psychology followed by a 1-year supervised practice as a psychology trainee and a final exam.
2. Job crafting was here defined as: "A specific form of behavior in which an employee, on his/her own initiative, introduces changes to the level of his/her job demands (i.e., job aspects that require effort and can be either hindering or challenging, e.g., high workload or being involved in new projects) and job resources (i.e., job aspects that stimulate personal growth and development, reduce job demands, or are functional in achieving work goals, e.g., good communication with co-workers or supervisors) to finally make his/her own job more meaningful, engaging, and satisfying" (Le Blanc et al., 2017, p. 50).
3. We run separated latent growth modeling (LGM) for each dimension of flow, that is, work enjoyment, absorption, and intrinsic work motivation. Only the models referred to the dimensions of absorption and intrinsic work motivation showed a good fit when nested with the overall LGM model.
4. Since preliminary analyses showed that participants in the two groups significantly differed as for gender distribution (G) and educational level (EDU), we first tested the effect of these two variables on the intercept and slope of weekly intentions. Results showed that neither G nor EDU had a significant effect on the intercept (G:  $B = -0.42$ ;  $p = .08$ ; EDU:  $B = 0.07$ ;  $p = .29$ ) and on the slope (G:  $B = 0.01$ ;  $p = .88$ ; EDU:  $B = 0.02$ ;  $p = .45$ ). Accordingly, we removed these variables from subsequent analyses.

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