

SELF-EFFICACY AND WORK PERFORMANCE: THE ROLE OF JOB CRAFTING IN MIDDLE-AGE WORKERS

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ABSTRACT

In the last years, the scientific interest on job crafting within the Job demands-resources theory has been increased. The paper aimed to examine the role of job crafting in the relationship between self-efficacy and performance at work. Based on Job demands-resources theory, we hypothesized that employees with higher levels of self-efficacy would be most likely to make proactively changes in their own jobs in order to perform well. Specifically, we hypothesized that job crafting may mediate the positive effects between self-efficacy and work performance and organizational citizenship behaviours. Participants were 361 employees of different Italian organizations. Results from SEM showed the positive effect of self-efficacy on job crafting, work performance, and organizational citizenship behaviours. Furthermore, job crafting partially mediated the relationship between self-efficacy and work performance and totally mediated the relationship between

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self-efficacy and organizational citizenship behaviours. Findings suggest that job crafting can play a crucial role in the influence of personal resources, as self-efficacy, and the performance at work.

Keywords: Extra-role performance; Job crafting; Job demands-resources theory; In-role performance; Self-efficacy

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1. INTRODUCTION

In multifaceted organizational environments, individual characteristics such as personal variables are often studied to better understand their impact on work performance and other organizational outcomes (Bipp & Demerouti, 2015). The relationship between personal resources and performance has been supported by several studies (Bakker & Demerouti, 2014; Xanthopoulou et al., 2009a; 2009b). Personal resources are positive self-evaluations which may influence organizational outcomes such as goal-setting, motivation, performance, job and life satisfaction (Bakker & Demerouti, 2014). Several studies, in fact, showed that personal resources, such as self-efficacy, are positively related to work engagement (Xanthopoulou et al., 2007; Xanthopoulou et al., 2009a) and are used to well perform at work (Bakker & Xanthopoulou, 2009; Luthans et al., 2010).

The economic global crisis, in addition to rapid modifications coming from labour market, forced companies to be more competitive and to improve their abilities and know-how. Consequently, performance at work is becoming an essential indicator for organizations and for the strategic position in global markets for both workers and organizations (Callea et al., 2016; Ingusci et al., 2016a; 2016b; 2016c; Ingusci, 2018). In line with this theoretical framework, the aim of the study is to contribute empirically and theoretically on research, investigating the relationship between self-efficacy and performance at work by examining the role in this relationship of job crafting. Based on the Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2014), we postulated that job crafting is a proactive strategy through which workers with higher levels of self-efficacy can modify their work conditions to perform well in several ways. Research about self-efficacy, job crafting and performance is growing but is yet occasional. Although few recent studies (Cenciotti et al., 2016b; Tims et al., 2014; Miraglia et al., 2017) explored the role of job crafting in the relation between self-efficacy and in-role performance, to our knowledge no research has yet considered extra-role performance as an outcome. Extra-role performance represents behaviors that are not included in formal job requirements, and are suggested to be outcomes of abundant resources (triggered by crafting), and can help organizational functioning (Demerouti et al., 2015).

The present study aims to provide support to the mediating role of job crafting between personal and job resources and performance, according to the JD-R theory (Bakker & Demerouti, 2014), more specifically between self-efficacy with both in-role and extra-role performance. Italy is one of the most important market economies in the world (OECD, 2017) and faces constantly the consequences of a change in the labour market, as a large number of different countries (Pacifico et al., 2018). Job crafting conceptualization, in term of moderation or mediation effect, can be very useful to understand how people deal with the growing levels of uncertainty and complexity in the workplace. The relations hypothesised in this paper between job crafting, self-efficacy,

organizational citizen behaviours and extra-role performance can lead to a reflection about the modalities adopted to evolve and fit transversal abilities, in order to manage the changing situation of the actual society: outcomes can be used from professionals, organizations and researchers.

2. LITERATURE REVIEW

2.1. *Self-Efficacy, In-Role Performance, and Extra-Role Performance*

Self-efficacy refers to people's beliefs of their capabilities to activate the motivation, the cognitive and emotional resources and all the actions needed to cope with situational demands (Bandura, 1986; Carter et al., 2016). Several studies suggested that self-efficacy can be decisive to provide effort and persistence in achieving goals, relating it to a positive motivational condition at work (Consiglio et al., 2016). Self-efficacy at work concerns the degree of confidence that people have in their ability to achieve a specified level in a particular context (Bandura, 2000; Pepe et al., 2010). It refers to skills useful to manage and build new companies (Moriani et al., 2006), and furthermore, it can be studied in relation to abilities to carry out job tasks (Osipow & Temple, 1996). Several empirical studies (Bandura & Locke, 2003; Tims et al., 2014) and a meta-analysis (Judge & Bono, 2001; Rudolph et al., 2017) described significant correlations between self-efficacy and in-role performance. In-role performance is defined as those behaviours expressly required by the organization and strictly linked to the goals of the organization (Motowidlo & Van Scotter, 1994), including work performance. Employees highly self-efficacious may use more and better adaptive behavioural strategies, such as help co-workers about work-related problems or choose to attend meetings because they are better able to proactively plan these activities to accommodate them.

Although the positive effect of self-efficacy on work performance is well documented in literature (Judge & Bono, 2001), few studies investigated the relationship between self-efficacy and extra-role performance. Extra-role performance, including Organizational Citizenship Behaviour (OCB), concerns employees' discretionary and voluntary behaviours not directly linked to the goals of the organization (Organ, 1997). Specifically, OCB concerns all that contextual behaviours that contribute to "the maintenance and enhancement of the social and psychological context that supports task performance" (Organ, 1997, p. 91). People evaluate their ability to cope successfully with challenges when faced with environmental and challenging job demands, and that based on this judgment, they persist with behavioural strategies to control challenges effectively and gain desired outcomes (Bandura, 2000). According to Speier and Frese (1997) and Morrison & Phelps (1999), for instance, self-efficacy is a strong predictor of personal initiative and "taking charge" behaviour. Therefore, in line with this theoretical framework, we expect that:

Hypothesis 1: self-efficacy will be positively related to (a) work performance and (b) OCB.

2.2. *Self-efficacy and Job Crafting*

Given the importance of self-regulatory processes that workers can apply when they are highly self-efficacious, it becomes urgent to comprehend the mechanism that may explain increased performance at work, including job crafting, because it can work as a proactive tool useful to help employees and employers to manage the risk and the changes deriving from labour market.

Job crafting was introduced by Wrzesniewski and Dutton (2001), who specified how job crafters are those employees who proactively initiate changes in their work environment, with the aim to align their personal needs and their abilities with their job. Further research suggested how job crafting can be studied as an approach to job design directed to achieve individual and organizational positive outcomes (Bakker et al., 2016; Cenciotti et al., 2016b).

From a theoretical point of view, job crafting has been described as consisting of three dimensions (Wrzesniewski & Dutton, 2001): task, cognitive and relational aspects to build relations at work, through which they can modify their social environment. The JD-R model (Bakker & Demerouti, 2007) specifies two broad classes of working conditions (job demands and job resources), used to improve employees' well-being and performance. Job demands are job characteristics potentially adverse if not aligned with the abilities of individuals to adapt themselves to changes (Bakker et al., 2007), like heavy workload, or cognitive, relational or emotional demands. Job resources are job aspects which can give an essential support to employees (Bakker & Demerouti, 2007) and are described as the physical, psychological, social or organisational job characteristics which realize different purposes, like autonomy. Job resources are crucial in accomplishing work goals and are necessary to harmonize the balance with the job demands. Furthermore, job resources can lead to work engagement and consequently to enhanced performance (Xanthopoulou et al., 2009b).

Job crafting has been defined as the changes that employees may make to balance their job demands and job resources with their personal abilities and needs (Tims, Bakker, & Derks, 2012). It is important to note that job crafting is not about redesigning the job as a whole but about changing certain aspects of the job within the boundaries of the specific job tasks (Berg et al., 2008). A recent research (Petrou, et al., 2012) defines job crafting starting from three work strategies: seeking resources, seeking challenges and reducing demands. Seeking resources is considered as a coping tool useful to manage and balance job demands. Individuals are motivated to accumulate resources crucial for the defence and gain of further resources; this mechanism can be useful to increase job resources and thus, to lead to positive organizational outcomes (Hobfoll, 2011). As for seeking, employees with active jobs, and thus with high job demands and high control, seek new situations that may promote new skills and take on more responsibilities and new projects, making more dynamic their job environment. Seeking challenges can increase people's motivation at work and improve work engagement (Petrou et al., 2016). Reducing demands, finally, includes behaviours directed toward a decrease of all those job aspects, emotionally, mentally and physically too demanding, actions such as task avoidance and reducing workload (Ingusci et al., 2019) and time pressure, in sum, behaviours that indirectly may lead to low motivation and to a progressive exhaustion. Resources and demands play a significant role each other in influencing organizational outcomes. People having personal resources such as self-efficacy, feel capable to select, modify and implement other resources to meet and cope with stressful demands. Self-efficacy has been associated to more positive physical and emotional well-being (Bandura, 1986). Self-efficacy, self-esteem, coping strategies and social support are often enhanced in the coping process. Stressful situations have an impact on resources and often determine their loss, but, the Conservation of Resources theory (Hobfoll, 2011) suggests, that coping with challenges successfully can increase resources and improve new strategies to cope with organizational changes, affecting job crafting behaviours (Petrou et al., 2016). Moreover, Luthans et al. (2007) stated that workers with higher levels of self-efficacy feel more confident to effort and develop strategies to cope successfully with challenging tasks. Job crafters feel more capable than others to cope with future work situations potentially demanding and difficult (Berg

et al., 2008). In sum, according to previous studies, we refer to job crafting in terms of job demands and job resources, by focusing on several aspects that employees can modify in their jobs, which are part of those self-initiated behaviours and proactive strategies that employees carry out to make actual changes in their level of job demands or job resources (Bakker & Demerouti, 2007). Following theoretical suggestions about self-efficacy and job crafting (Van Wingerden et al., 2017), we expect that:

Hypothesis 2: self-efficacy will be positively related to job crafting.

2.3. *Job Crafting As a Mediator of The Effect Of Self-Efficacy on Work Performance and OCB*

Job crafting includes crafting more autonomy and task independence that may lead the employees to feel more responsible for own performance and consequently, they can be encouraged to invest more effort in the work task (Carter et al., 2016). Job crafting facilitates engagement and performance, because employees changing their work environment, proactively adjust their job demands and resources with their own abilities and needs (Tims & Bakker, 2010). Job crafting leads to positive outcomes for the employee (person-job fit, enhanced meaning, job satisfaction, work engagement) as well as for the organization (commitment, high performance, reduced staff turnover) (Bakker & Demerouti, 2014; Tims & Bakker 2010). For these reasons, studies suggested that employees should get opportunities to craft their own jobs (Tims, et al., 2013). Tims et al. (2013) observed a significant relationship between crafting challenging demands and increased work engagement and decreased burnout. It is also interesting to note that, according to Oldham & Hackman (2010), beneficial outcomes could originate not from positive changes in job aspects but from being just immersed in job crafting activities, because it may increase employees' own work responsibilities. They suggested to reflect about the benefit and positive differences deriving from job crafting behaviours.

Recently, Tims et al. (2015) analysed the relation between job crafting and job performance, suggesting that employees can increase their own work engagement and job performance through job crafting. Job resources play a crucial role in intrinsically motivating because they satisfy essential human needs for autonomy and competence (Schaufeli & Taris, 2014). Adding to it, studies shown that workers that use social job resources are more likely to be encouraged to use altruism behaviours toward their colleagues. Therefore, in line with this theoretical framework, we expect that:

Hypothesis 3: job crafting will be positively related to (a) work performance and (b) OCB.

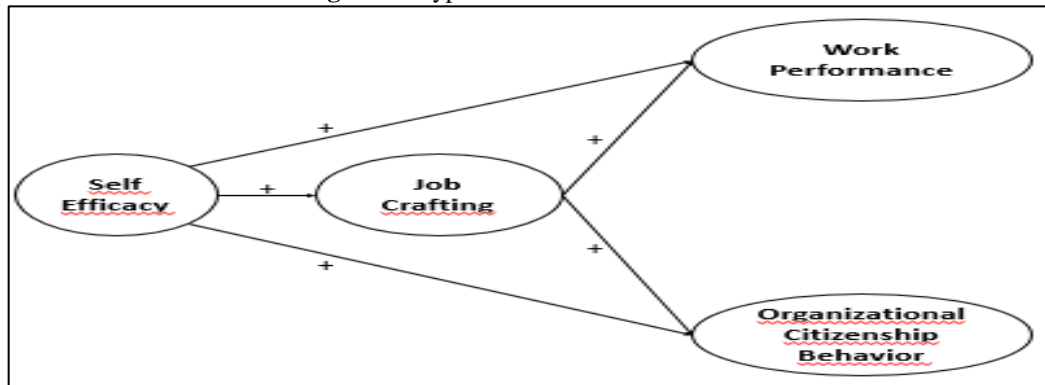
Several researchers argued that work performance is an important strategy for companies to cope with changes and to achieve competitive advantage (Oldham & Hackman, 2010), and it is useful for survival because it can support organizations to create, sustain and maintain a competitive position inside the global labour market, avoiding the failure (Alge et al., 2006). Within the COR theory, people who possess more personal resources, convert them in operative behavioural strategies to develop these resources and achieve their goals (Cenciotti et al., 2016b; Hobfoll, 2011). According to the literature, we can state that job crafting refers to employees that proactively modify aspects of their job to produce a better person-job fit (Tims, et al., 2012; Wrzesniewski & Dutton, 2001). Moreover, recent research highlighted that job crafting can enhance employee

performance and well-being (Petrou et al., 2012; Tims et al., 2014; Petrou, Demerouti, Schaufeli, 2015; Loera et al., 2018).

In sum, we state that possessing and developing self-efficacy at work can lead to proactive behaviours in order to enhance desired outcomes. Therefore, taking these findings into account, we want to formulate the following hypothesis (see Figure 1):

Hypothesis 4: job crafting will mediate the positive relationship between self-efficacy and (a) work performance and (b) OCB.

Figure 1: Hypothesized Mediation Model



3. METHODOLOGY

3.1. Procedure and Participants

Participants were recruited in different organizational contexts. The survey was designed to respect the privacy and anonymity, ensuring information confidentiality and that the data will be analysed in aggregated manner. A written informed consent, with the description of the research's purpose, has been previously requested to participants.

Table 1: Principal descriptive demographic statistics of the sample

<i>Gender</i>		
Responses = 350 (96.9%)	Frequency	Percentage
Male	176	50.3%
Female	174	49.7%
<i>Age</i>		
Responses = 322 (89.2%)	Frequency	
Mean	47.7	
Standard deviation	7.7	
Minimum	26	
Maximum	66	
Mode	50	

Education		
Responses = 355 (98.3%)	Frequency	Percentage
Compulsory school	4	1.1%
High-school	109	30.7%
Professional certificate	6	1.7%
University degree	154	43.4%
Post-University degree	82	23.1%
Marital status		
Responses = 349 (96.7%)		
Single	53	15.2%
Married or lived with a partner	271	77.6%
Divorced	21	6.0%
Widowed	4	1.1%
Occupational status		
Responses = 353 (97.8%)		
Permanent contract	336	95.2%
Temporary contract	16	4.5%
Other	1	0.3%
Job time		
Responses = 350 (96.9%)		
Full-time	339	96.8%
Part-time	9	2.6%
Flexible	2	0.6%

Participants were 361 employees (50.3% men and 49.7% women) from private or public organizations. The sample was a purpose one: participants worked in different South Italy organizations. The response rate was of about 73%. Principal descriptive demographic statistics are illustrated in *Table 1*. The average age of the employees was 47.7 years old ($SD = 7.8$), ranging from 26 to 66 years old. The most frequent age was 50 years old (8.4%). In regards to education, 66.5% had a university degree, 30.7% had a high school degree and the remaining had a professional certificate (1.7%) or completed only the compulsory school (1.1%). About 15.2% of the participants were single, 77.7% were married (or lived with a partner) and the remaining were divorced (6%) or widowed (1.1%). Regarding occupational status, 95.2% had a permanent contract whereas 4.8% had a temporary job; furthermore, 95.6 worked full-time and only 4.4% worked part-time.

3.2. Measures

Self-efficacy was assessed with eight items of the Self-Efficacy at Work Scale (Borgogni et al., 2010). Participants responded on a 7-point scale which ranged from 1 (“not at all capable”) to 7 (“totally capable”). In the present study, Cronbach’s alpha was 0.80.

Job crafting was measured with the 21-items Job Crafting Scale (Tims et al., 2012; Cenciotti et al., 2016a). The scale consists of four dimensions: *increasing structural job resources*, *decreasing hindering demands*, *increasing social job resources* and *increasing challenging demands*. Answer alternatives ranged from 1 (never) to 5 (always). In line with previous studies (Akkermans & Tims,

2017), in the present paper we used the scores of the four dimensions as indicators of job crafting latent factor. Cronbach's alpha reached 0.84.

Work performance was measured with 18 items of the Individual Work Performance Questionnaire (IWPQ; Koopmans et al., 2014). It consisted of three scales: Task, contextual and counterproductive behaviour. Participants were asked to rate own performance, considering the period of the last three months, using a 5-point scale from 1 (seldom) to 5 (always). Cronbach's alpha reached .78.

OCB was measured with the 16-items Organizational Citizenship Behaviour Scale (Lee & Allen, 2002). Specifically, it measured behaviour that is directed towards other individuals (OCBI) and behaviour that is directed towards the organization (OCBO). Participants were asked to indicate, using 7-point scales from 1 (never) to 7 (always), how often they carried out these behaviours. Cronbach's alpha reached 0.89.

3.3. *Data Analyses*

Data were analysed using SPSS (version 23) and M-PLUS (version 8.53). Firstly, we followed the suggestions by Podsakoff et al. (2003) about the common method variance (CMV) in order to test whether our measures were sufficiently distinct. Therefore, two alternative nested models were compared via chi-square difference test ($\Delta\chi^2$). In the first model (M1), the fit of a one-factor solution was tested. In the second model (M2), the fit of a four-factor solution (i.e. self-efficacy, job crafting, work performance and OCB) was tested. Model fit was evaluated along with the following indices: Comparative Fit Index (CFI); Tucker-Lewis index (TLI); Root Mean Squared Error of Approximation (RMSEA); Standardized Root Mean Square Residual (SRMR). In particular, for TLI and CFI values between 0.90 and 0.95 are considered acceptable. RMSEA and SRMR values indicate a good fit when they are smaller than or equal to 0.08. In case our measures exhibited discriminant validity, it was expected that M2 would show a better fit than M1, i.e. chi-square difference test ($\Delta\chi^2$) should be significant. In addition to this, the Akaike Information Criterion (AIC) was also used to further compare the two models (Akaike, 1987): the model with lower AIC is the one to be preferred.

Mediation analysis (Walumbwa et al., 2009; Urbini et al., 2018) with latent variables (Ciavolino & Nitti, 2012; Ciavolino & Nitti, 2013b; Ciavolino & Carpita, 2015; Carpita & Ciavolino, 2017) were performed via structural equation modelling (SEM) (Joreskog, 1973; Bollen, 1989; Ciavolino & Al-Nasser, 2009; Ciavolino & Dahlgard, 2009; Ciavolino, 2012; Ciavolino & Nitti, 2013a, Ciavolino et al., 2013; Ciavolino, Carpita, Nitti, 2015; Oberski & Satorra, 2013; Nitti & Ciavolino, 2014; Ciavolino et al., 2015), following the mediation analysis (Preacher et al., 2010) strategy recommended by James et al. (2006). In the first step the full mediation (Rucker et al., 2011) model (i.e. without the direct effects) was tested; in the second step the partial mediation model, including the direct effects from self-efficacy to work performance and OCB, was tested. The two nested models were compared via the chi-squared difference test ($\Delta\chi^2$). If $\Delta\chi^2$ is not significant, the partial mediation model does not increase the fit significantly; therefore, the full mediation model is to be preferred since it is more parsimonious.

Finally, in order to evaluate the statistical significance of direct and indirect effects, bootstrapping procedure was used, employing 5000 samples with replacement from the full sample to construct

bias-corrected 95 percent Confidence Intervals (CI) (Hayes, 2009). The indirect effect is significant when zero is not included in the CI. If the indirect effect is not significant, there is not mediation; if both indirect and direct effects are significant then there is a partial mediation; finally, if the indirect effect is significant but direct effect is not significant a total mediation occurs (Hayes, 2009).

4. RESULTS AND DISCUSSION

Descriptive statistics of the study variables can be found in *Table 2*. Correlations among variables were in the expected direction. Self-efficacy was positively correlated to job crafting, $r = .39$, $p < 0.01$, work performance, $r = .69$, $p < 0.01$, and OCB, $r = .48$, $p < 0.01$. Job crafting was positively correlated to work performance, $r = 0.56$, $p < 0.01$, and OCB, $r = 0.79$, $p < 0.01$, as well as to work performance was positively correlated to OCB, $r = 0.63$, $p < 0.01$.

Table 2: Means, Standard Deviations, and Correlations among Variables

	M	SD	1	2	3	4
1. Self-efficacy	4.28	1.38	-			
2. Job crafting	4.13	1.05	0.39**	-		
3. Work performance	2.76	0.71	0.69**	0.56**	-	
4. OCB	4.30	1.47	0.48**	0.79**	0.63**	-

Note: ** $p < .01$

4.1. Testing The Factor Model and The Hypothesised Mediation Model

Results suggested that the one-factor model (M1), in which all items loaded on a single factor, did not show satisfying fit indices, CFI = 0.79, TLI = 0.74, RMSEA = 0.14, SRMR = 0.07, $\chi^2(44) = 374.82$, $p < 0.001$. Conversely, the four-factor solution model (M2), in which each item just loaded on its expected factor (i.e. self-efficacy, job crafting, work performance and OCB), showed a satisfying fit: CFI = 0.93, TLI = 0.90, RMSEA = 0.08, SRMR = 0.05, $\chi^2(38) = 155.75$, $p < 0.001$. The chi square difference between M1 and M2 showed that there was indeed a significantly increase of fit in M2, $\Delta\chi^2_{M1-M2}(6) = 219.73$, $p < 0.001$. Moreover, the AIC of M1 was 10109.39 while the AIC of M2 was 9902.32, further suggesting that the four-factor solution model (M2) had to be preferred to the one-factor model (M1), as reported in *Table 3*.

Table 3: Comparison between one-factor model and four-factor model

MODEL	χ^2	df	p	RMSEA	CFI	TLI	SRMR	AIC
Model 1:								
<i>All items loaded on a single factor</i>	374.82	44	<0.001	0.14	0.79	0.74	0.07	10109.39
Model 2:								
<i>4-Factor Model SE+JC+WP+OCB</i>	155.75	38	<0.001	0.08	0.93	0.90	0.05	9902.32
COMPARISON								
M2-M1	$\Delta\chi^2$	df	p					
	219.73	6	<0.001					

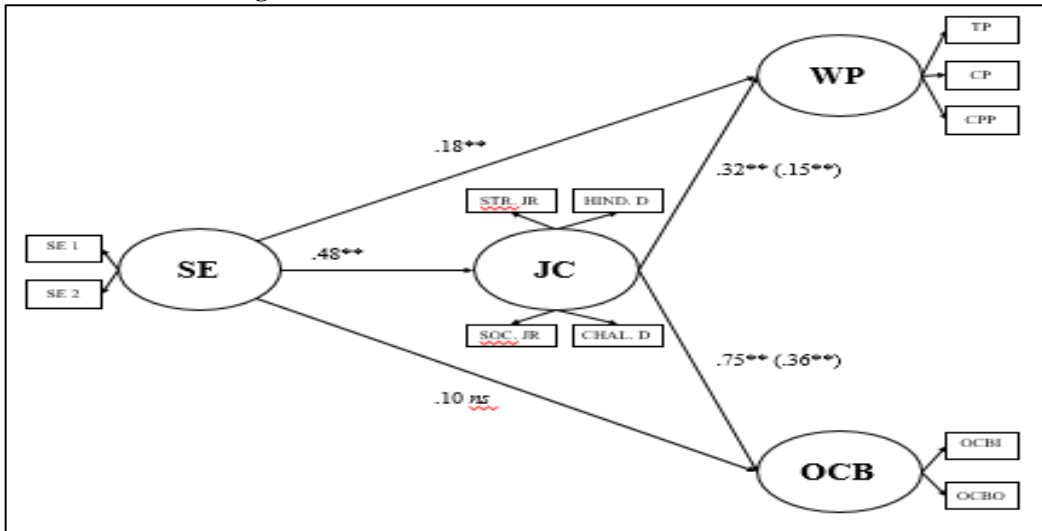
We compared the fit of the full mediation model with the fit of partial mediation model (James et al., 2006). Results are illustrated in *Table 4*.

Table 4: Comparison between Full mediation model and Partial mediation model

MODEL	χ^2	df	p	RMSEA	CFI	TLI	SRMR
Model 1:							
<i>Full mediation model</i>	191.59	40	<0.01	0.09	0.90	0.87	0.06
Model 2:							
<i>Partial mediation model</i>	149.68	38	<0.001	0.07	0.93	0.91	0.05
COMPARISON							
M2-M1	$\Delta\chi^2$	Df	p				
	41.91	2	<0.001				

The full mediation model showed a tolerable fit, $\chi^2(40) = 191.59$, $p < 0.01$; CFI = 0.90; TLI = 0.87; RMSEA = 0.09; SRMR = 0.06. The partial mediation model, including direct effects from self-efficacy on work performance and OCB, showed a satisfying fit, CFI = 0.93, TLI = 0.91, RMSEA = 0.07, SRMR = 0.05, $\chi^2(38) = 149.68$, $p < 0.001$. As $\Delta\chi^2(2) = 41.91$, $p < 0.001$ was significant, M2 improved the model fit: The partial mediation model has to be preferred (*Figure 2*).

Figure 2: Results of Partial Mediation Model via SEM



In Hypothesis 1a and 1b, we expected a positive association between self-efficacy and work performance and OCB. The total effect of self-efficacy on work performance was significant, $B = .34$, bootstrap CI between 0.26 and 0.41; also the total effect of self-efficacy on OCB was significant, $B = 0.46$, bootstrap CI between 0.35 and 0.56, supporting Hypothesis 1a and 1b.

In line with Hypothesis 2, we found a significant and positive relationship between self-efficacy and job crafting, $B = 0.48$, bootstrap CI between 0.38 and 0.58. Furthermore, in Hypothesis 3a and 3b, we expected a positive relationship between job crafting and work performance and OCB. Results supported Hypothesis 3a and 3b, showing that job crafting had a significant and positive association both work performance, $B = 0.32$, bootstrap CI between 0.23 and 0.40, and, OCB, $B = 0.75$, bootstrap CI between 0.55 and 0.98.

Finally, in Hypothesis 4a and 4b, we expected that job crafting mediates the effect of self-efficacy on work performance and OCB. The indirect effect of self-efficacy on work performance, via job crafting, was significant, $B = 0.15$, bootstrap CI between 0.10 and 0.20. Also the direct effect was significant, $B = 0.19$, bootstrap CI between 0.12 and 0.28. Therefore, job crafting partially mediated the relationship between self-efficacy on work performance.

Furthermore, the indirect effect of self-efficacy on OCB, via job crafting, was significant, $B = 0.36$, bootstrap CI between 0.25 and 0.49. However, the direct effect was not significant, $B = 0.10$, bootstrap CI between -0.03 and 0.23. Therefore, job crafting totally mediated the relationship between self-efficacy on OCB.

In sum, results showed that job crafting mediated the effect of self-efficacy on work performance and OCB, supporting Hypothesis 4a and 4b.

As our data were cross-sectional, in order to rule out competing hypotheses we also considered an alternative model with an inverse path, in which self-efficacy mediates the effect between job

crafting and both outcomes. The alternative model showed worse fit indices, $\chi^2(38) = 155.75$, $p < 0.001$, $CFI = 0.93$, $TLI = 0.89$, $RMSEA = 0.09$, $SRMR = 0.05$, than the hypothesized model. Therefore, the hypothesized partial mediation model has to be empirically preferred to its alternative model.

4.1. Discussion

In this study we tested whether self-efficacy at work can be a crucial variable for improving work performance and OCB. Based on the theoretical framework of JD-R theory (Bakker & Demerouti, 2014; Van Den Broeck et al., 2013), we investigated whether self-efficacy at work can influence work performance and OCB via job crafting behaviours.

Our results mostly support our hypotheses: job crafting partially mediated the positive relationship between self-efficacy at work and work performance and fully mediated the positive relationship between self-efficacy at work and OCB. In sum, our findings contribute to the JD-R theory by showing that self-efficacy at work may act as a personal resource that can be functional in achieving goal and stimulate personal growth and development (Van Wingerden et al., 2017; Xanthopoulou et al., 2009a). Moreover, our findings suggest to consider job crafting as a mechanism which can influence strategic organizational outcomes such as in-role and extra-role performance. Our study in fact, shows that job crafting can be guided by self-efficacy and then related to improved task performance and OCB, that are important and decisive organizational desired outcomes. As a consequence, job crafting can represent a core mechanism of motivational processes as described by JD-R theory (Akkermans & Tims, 2017). Our design is based on theoretical assumptions deriving from JD-R theory which states that personal resources (such as self-efficacy) and job resources (such job crafting behaviour) strengthen each other and contribute to work performance overall (Van Wingerden et al., 2017). Job crafting has been recently studied as a mediator between individual variables and career success (Akkermans & Tims, 2017; Cenciotti et al., 2016b; Ingusci et al., 2016b) but a few studies use it as mechanism to mediate self-efficacy at work and in-role and extra-role performance, mostly on daily situations; for instance, Tims and colleagues (2014) showed the people at work who felt more self-efficacious on a given day are more likely to activate their job resources on that day. According to the JD-R theory (Bakker & Demerouti, 2014) personal resources can be crucial to initiate a motivational process that leads to enhanced individual outcomes. Recently, JD-R theory has incorporated job crafting, as a form of proactive work behaviour, it has been conceptualized as a means of mobilising personal resources to provide favourable outcomes. To the best of our knowledge, literature about job crafting behaviours as mediators of the self-efficacy at work and in-role and extra-role performance is poor. Self-efficacy at work may improve employees' capabilities acted to cope with difficulties related to their work activities (Caprara et al., 2003), to manage and build a new enterprise (Moriani et al., 2006), to carry out work assignments (Betz & Hackett, 1981) and to relate to specific tasks (Akkermans & Tims, 2017; Osipow & Temple, 1996).

5. CONCLUSION

This study contributes to JD-R theory in several ways. Firstly, according to the JD-R model, personal resources are part of a motivational process useful to increase employee well-being and organizational outcomes (Akkermans & Tims, 2017). Self-efficacy can play a crucial role as an antecedent of any dimensions of job crafting: therefore, future research should deeply explore this relation, focusing on the different job crafting behaviours, the increasing of job resources and the increasing of challenging job demands, according to suggestions developed by recent studies by Petrou et al. (2016). Furthermore, future research could investigate this process of mediation over longer time periods and in an alternative model in which variables are reciprocally related. Although research about personal resources and organizational outcomes (especially work engagement) is very large, we note a lack of the studies about the mediating role of job crafting in this relation, especially with OCB as an extra-role performance behaviour. Therefore, we can consider it as a second contribution for literature about JD-R theory and the use of job crafting. Job crafting behaviour can be guided by self-efficacy and, thus may lead to increase employees' performance at work. A further value of this study concerns the focus on a particular form of extra-role performance: OCB.

A first practical implication of this study concerns the role of organizations. Companies could promote workers' job crafting behaviours through the increase of levels of personal resources. Managers and employers could sustain the development and the enlargement of human resources practices which are likely to improve commitment and performance at work (Akkermans, Tims, 2017; Kuvaas, 2008). Another crucial issue is job insecurity (Piccoli et al., 2017). In such current situation, when temporary contracts and job insecurity at work are increasing (Ingusci et al., 2016b; Callea et al., 2016; Ingusci et al., 2011), many employees try to find different ways to manipulate their job to adapt it to own needs. Job crafting can become a decisive strategy to deal with change with important implications for performance (Petrou et al., 2016) and well-being at work. In sum, these findings can support organizations to focus on personal resources in different human resources practices, such as the personnel selection and career development. Recently, we observed how job crafting interventions can be useful to support workers in maintaining and strengthening their personal resources, obtaining essential benefit both for workers and organizations (Cenciotti et al., 2016b).

This study has key strengths, including a theoretical development of JD-R theory but it also shows several limitations. First, in the study we used only self-report measures which can result in common method biases. However, following suggestions by Podsakoff et al. (2012) and Williams et al. (2010), we proved that CMV is not likely to have affected our findings. Although performance can be measured also by supervisor rating, we state that job crafting and self-efficacy at work cannot be measured by other than themselves. Moreover, according to literature, some variables can be rated by employees themselves (Demerouti, Bakker, 2011); self-efficacy and job crafting can be often difficult to be rated by colleagues or supervisors (Daniels, 2006; Spector, 2006), also when they are measured on daily basis (Tims et al., 2013). Secondly, the study has used a cross sectional design, it limited the possibility to establish causal relationships between the variables.

A further limitation concerns our sample, which was a convenience one. It consisted of individuals from private and public sector, mostly of them of middle age (average = 47.4 years, $SD = 8.4$).

These employees may craft their jobs and feel self-efficacious at the same time. Job crafting behaviours can be used also to manage different career stages (Akkermans, Tims, 2017). Therefore, future research could replicate this study among different age cohorts. For instance, according to the framework presented by Kooij et al. (2015), job crafting for older can help older workers to stay motivated and healthy.

DISCLOSURE OF INTEREST

The authors declare that they have no competing interest.

REFERENCES

- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52(3), 317–332.
- Akkermans, J., & Tims, M. (2017). Crafting your career: How career competencies relate to career success via job crafting. *Applied Psychology: An International Review*, 66(1), 168–195.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
- Bakker, A. B., & Demerouti, E. (2014). Job demands–resources theory. In P.Y. Chen & C.L. Cooper (Eds.), *Work and Wellbeing: Wellbeing: A complete reference guide (Vol. III)*, pp. 37–64. Chichester, UK: Wiley-Blackwell.
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99(2), 274–284.
- Bakker, A. B., Rodríguez-Muñoz, A., & Sanz Vergel, A. I. (2016). Modelling job crafting behaviours: Implications for work engagement. *Human Relations*, 69(1), 169–189.
- Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor–partner interdependence model. *Journal of Applied Psychology*, 94(6), 1562–71.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, 4(3), 359–373.
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, 9(3), 75–78.
- Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87–99.
- Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2008). Job crafting exercise. Regents of the University of Michigan, Ann Arbor, MI. Retrieved from <http://www.jobcrafting.org>.
- Betz, N. E., & Hackett, G. (1981). The relationship of career-related self-efficacy expectations to perceived career options in college women and men. *Journal of Counseling Psychology*, 28(5), 399–410.
- Bipp, T., & Demerouti, E. (2015). Which employees craft their jobs and how? Basic dimensions of personality and employees' job crafting behaviour. *Journal of Occupational and Organizational Psychology*, 88(4), 631–655.
- Bollen, K. (1989). *Structural Equations with Latent Variables*. Wiley Series in Probability and Statistics

- Borgogni, L., Dello Russo, S., Petitta, L., & Vecchione, M. (2010). Predicting job satisfaction and job performance in a privatized organization. *International Public Management Journal*, 13(3), 275–296.
- Callea, A., Urbini, F., Ingusci, E., & Chirumbolo, A. (2016). The relationship between contract type and job satisfaction in a mediated moderation model: The role of job insecurity and psychological contract violation. *Economic and Industrial Democracy*, 37(2), 399–420.
- Caprara, G. V., Barbaranelli, C., Borgogni, L., Petitta, L., & Rubinacci, A. (2003). Teachers', school staff's and parents' efficacy beliefs as determinants of attitudes toward school. *European Journal of Psychology of Education*, 18(1), 15–31.
- Carpita, M., & Ciavolino, E. (2017). A Generalized Maximum Entropy Estimator to Simple Linear Measurement Error Model with a Composite Indicator. *Advance in Data Analysis and Classification*. 11.1: 139-158
- Carter, W. R., Nesbit, P. L., Badham, R. J., Parker, S. K., & Sung, L. K. (2016). The effects of employee engagement and self-efficacy on job performance: A longitudinal field study. *The International Journal of Human Resource Management*, 1–20.
- Cenciotti, R., Borgogni, L., Callea, A., Colombo, L., Cortese, C. G., Ingusci, E. Miraglia, M., & Zito, M. (2016a). The Italian version of the Job Crafting Scale (JCS). *Applied Psychology Bulletin*, 277, 28-36.
- Cenciotti, R., Alessandri, G., & Borgogni, L. (2016b). Psychological Capital and Career Success Over Time: The Mediating Role of Job Crafting. *Journal of Leadership & Organizational Studies*, 24(3), 372–384.
- Ciavolino E., & Al-Nasser A.D., (2009). Comparing Generalized Maximum Entropy and Partial Least Squares methods for Structural Equation Models. *Journal of Nonparametric Statistics*, 21(8), 1017-1036.
- Ciavolino, E. (2012). General distress as second order latent variable estimated through PLS-PM approach. *EJASA*, 5(3), 458-464.
- Ciavolino, E., & Carpita, M. (2015). The GME Estimator for the Regression Model with a Composite Indicator as Explanatory Variable. *Quality & Quantity*, 49 (3), pp 955-965.
- Ciavolino, E., Carpita, M., & Al-Nasser, A.D. (2015). Modeling the quality of work in the Italian social co-operatives combining NPCA-RSM and SEM-GME approaches. *Journal of Applied Statistics*, 42(1), pp 161-179.
- Ciavolino, E., Carpita, M., & Nitti, M. (2015). High-Order PLS Path Model with qualitative external information. *Quality & Quantity*, 49(4), pp 1609-1620.
- Ciavolino, E., & Dahlgaard, J. J., (2009). Simultaneous Equation Model based on Generalized Maximum Entropy for studying the effect of the Management's Factors on the Enterprise Performances. *Journal of Applied Statistics*, 36(7), 801-815.
- Ciavolino, E., & Nitti, M. (2012). Passenger satisfaction as a formative second-order construct. solving the matter of identification through a hybrid two-step approach. *Statistica e Applicazioni*, X(2).
- Ciavolino, E., & Nitti, M. (2013a). Simulation study for PLS path modelling with high-order construct: A job satisfaction model evidence. In *Advanced Dynamic Modeling of Economic and Social Systems* (pp. 185-207). Springer Berlin Heidelberg.
- Ciavolino, E., & Nitti, M. (2013b). Using the Hybrid Two-Step estimation approach for the identification of second-order latent variable models. *Journal of Applied Statistics*, 40(3), 508-526.

- Consiglio, C., Borgogni, L., Di Tecco, C., & Schaufeli, W. B. (2016). What makes employees engaged with their work? The role of self-efficacy and employee's perceptions of social context over time. *Career Development International*, 21(2), 125–143.
- Daniels, K. (2006). Rethinking job characteristics in work stress research. *Human Relations*, 59(3), 267–290.
- Demerouti, E., & Bakker, A. B. (2011). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37(2), 1–9.
- Demerouti, E., Bakker, A.B., & Gevers, J.M. (2015). Job crafting and extra-role behavior: The role of work engagement and flourishing. *Journal of Vocational Behavior*, 91, 87–96.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408–420.
- Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology*, 84(1), 116–122.
- Ingusci, E. (2018). Diversity Climate and Job Crafting: The Role of Age. *The Open Psychology Journal*, 11(1).
- Ingusci, E., Spagnoli, P., Zito, M., Colombo, L., & Cortese, C. G. (2019). Seeking Challenges, Individual Adaptability and Career Growth in the Relationship between Workload and Contextual Performance: A Two-Wave Study. *Sustainability*, 11, 422.
- Ingusci, E., Callea, A., Chirumbolo, A., & Urbini, F. (2016a). Job crafting and job satisfaction in a sample of Italian teachers: The mediating role of Perceived Organizational Support. *Electronic Journal of Applied Statistical Analysis*, 9(4), 675–687.
- Ingusci, E., Manuti, A., & Callea, A. (2016b). Employability as mediator in the relationship between the meaning of working and job search behaviours during unemployment. *Electronic Journal of Applied Statistical Analysis*, 9(1), 1–16.
- Ingusci, E., Palano, F., Ressa, L., & Tanucci, G. (2011). Atypical Employment: An Explorative Study of the Motivations and Attitudes of Atypical Workers. In *Boundaryless Careers and Occupational Well-being* (pp. 191–202). Palgrave Macmillan, London.
- Ingusci, E., Palma, F., De Giuseppe, M. C., & Iacca, C. (2016c). Social and scholar integration and students satisfaction: the mediating role of career adaptability. *Electronic Journal of Applied Statistical Analysis*, 9(4), 704–715.
- James, L. R., Mulaik, S. A., & Brett, J.M. (2006). A tale of two methods. *Organizational Research Methods*, 9(2), 233–244.
- Jöreskog, K. G. (1973). A general method of estimating a linear structural equation System, in *Structural Equation Models in the Social Sciences*, S.A. Goldberg and D.O. Duncan, eds., Seminar Press, New York, 1973, pp. 85–112.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86(1), 80–92.
- Kooij, D. T., Tims, M., & Kanfer, R. (2015). Successful aging at work: The role of job crafting. In P. Bal, D. Kooij, & D. Rousseau (Eds.), *Aging workers and the employee-employer relationship* (pp.145–161). Switzerland: Springer International Publishing.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., De Vet, H. C., & Van der Beek, A. J. (2014). Construct validity of the individual work performance questionnaire. *Journal of Occupational and Environmental Medicine*, 56(3), 331–337.
- Kuvaas, B. (2008). An exploration of how the employee–organization relationship affects the linkage between perception of developmental human resource practices and employee outcomes. *Journal of Management Studies*, 45(1), 1–25.

- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognition. *Journal of Applied Psychology, 87*(1), 131–142.
- Loera, B., Brondino, M., Civilleri, A., Ingusci, E., Pace, F., Pasini, M., & Converso, D. (2018). L'attenzione per il benessere organizzativo nella Pubblica Amministrazione italiana. Analisi critica del questionario CIVIT/ANAC.
- Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly, 21*(1), 41–67.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60*, 541–572.
- Miraglia, M., Cenciotti, R., Alessandri, G., & Borgogni, L. (2017). Translating self-efficacy in job performance over time: The role of job crafting. *Human Performance, 30*(5), 254–271.
- Moriano, J. A., Palací, F. J., & Morales, J. F. (2006). Adaptación y validación en España de la escala de Autoeficacia Emprendedora. *Revista de Psicología Social, 21*, 51–64. Retrieved from <http://www.redalyc.org/articulo.oa?id=16723161019>
- Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate workplace change. *Academy of Management Journal, 42*(4), 403–419.
- Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology, 79*(4), 475–480. doi:10.1037/0021-9010.79.4.475
- Nitti, M., & Ciavolino, E. (2014). A deflated indicators approach for estimating second-order reflective models through PLS-PM: an empirical illustration. *Journal of Applied Statistics, 41*(10), 2222–2239.
- Oberski, D., & Satorra, A. (2013) Measurement Error models with uncertainty about the error variance. *Struct. Equ. Model. A Multidiscip. J. 20*(3), 409–428
- OECD (2017), OECD Economic Surveys: Italy 2017, OECD Publishing, Paris
- Oldham, G. R., & Hackman, J. R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior, 31*(2/3), 463–479.
- Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance, 10*(2), 85–97.
- Osipow, S. H., & Temple, R. D. (1996). Development and use of the task-specific occupational self-efficacy scale. *Journal of Career Assessment, 4*(4), 445–456.
- Pacifico, D., Browne, J., Fernandez, R., Immervoll, H., Neumann, D., & Thévenot, C. (2018). Faces of Joblessness in Italy: A People-centred perspective on employment barriers and policies. Available at <https://www.econstor.eu/bitstream/10419/185228/1/dp11768.pdf>
- Pepe, S. J., Farnese, M. L., Avallone, F., & Vecchione, M. (2010). Work Self-efficacy Scale and Search for Work Self-efficacy Scale: A validation study in Spanish and Italian cultural contexts. *Revista de Psicología del Trabajo y de las Organizaciones, 26*(3), 201–210.
- Petrou, P., Demerouti, E., Peeters, M. C., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33*(8), 1120–1141.
- Petrou, P., Demerouti, E., & Schaufeli, W. B. (2015). Job crafting in changing organizations: Antecedents and implications for exhaustion and performance. *Journal of Occupational Health Psychology, 20*(4), 470–480.
- Petrou, P., Demerouti, E., & Schaufeli, W. B. (2016). Crafting the change: The role of employee job crafting behaviors for successful organizational change. *Journal of Management.*

- Piccoli, B., Callea, A., Urbini, F., Chirumbolo, A., Ingusci, E., & De Witte, H. (2017). Job insecurity and performance: the mediating role of organizational identification. *Personnel Review*, 46(8), 1508-1522.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.
- Podsakoff, P. M., MacKenzie, S. B., Podsakoff, N. P., & Lee, J. Y. (2003). The mismeasure of man (agement) and its implications for leadership research. *The Leadership Quarterly*, 14(6), 615-656.
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological methods*, 15(3), 209.
- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5(6), 359-371.
- Rudolph, C. W., Katz, I. M., Lavigne, K. N., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and work outcomes. *Journal of Vocational Behavior*, 102, 112-138.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health. In G. Bauer & O. Hammig (Eds.), *Bridging occupational, organizational and public health* (pp.43-68). Dordrecht: Springer.
- Spector, P. E. (2006). Method variance in organizational research: truth or urban legend? *Organizational Research Methods*, 9(2), 221-232.
- Speier, C., & Frese, M. (1997). Generalized self-efficacy as a mediator and moderator between control and complexity at work and personal initiative: A longitudinal field study in East Germany. *Human Performance*, 10(2), 171-192.
- Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology*, 36(2), 1-9.
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, 80(1), 173-186.
- Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, 18(2), 230-240.
- Tims, M., Bakker, A. B., & Derks, D. (2014). Daily job crafting and the self-efficacy-performance relationship. *Journal of Managerial Psychology*, 29(5), 490-507.
- Tims, M., Bakker, A. B., & Derks, D. (2015). Job crafting and job performance: A longitudinal study. *European Journal of Work and Organizational Psychology*, 24(6), 914-928.
- Urbini, F., Callea, A., Chirumbolo, A., Talamo, A., Ingusci, E., & Ciavolino, E. (2018). Team performance in the Italian NHS: the role of reflexivity. *Journal of health organization and management*, 32(2), 190-205.
- Van den Broeck, A., Van Ruysseveldt, J., Vanbelle, E., & De Witte, H. (2013). The job demands-resources model: overview and suggestions for future research. In A.B. Bakker (Ed.), *Advances in positive organizational psychology* (pp.83-105). Emerald, Bingley, UK.
- Van Wingerden, J., Derks, D., & Bakker, A.B. (2017). The impact of personal resources and job crafting interventions on work engagement and performance. *Human Resource Management*, 56(1), 51-67.

- Walumbwa, F. O., Cropanzano, R., & Hartnell, C. A. (2009). Organizational justice, voluntary learning behavior, and job performance: a test of the mediating effects of identification and leader-member exchange. *J. Organ. Behav.* 30(8), 1103–1126
- Williams, L. J., Hartman, N., & Cavazotte, F. (2010). Method variance and marker variables: A review and comprehensive CFA marker technique. *Organizational Research Methods*, 13(3), 477–514.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of management review*, 26(2), 179–201.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121–141.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009a). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82(1), 183–200.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74(3), 235–244.