

Job crafting, flow, and job performance: A mediational analysis



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Orientation: This study investigated the indirect effect of work-related flow on the relationship between job crafting and in-role job performance.

Research purpose: To determine whether job crafting as a job redesign approach is helpful for employees' experience of work and job performance.

Motivation for the study: Most research has focused on the direct relationship between job crafting and performance or engagement as a mediator of this relationship. We propose work-related flow as an alternative explanation to engagement for the relationship between job crafting and performance.

Research approach/design and method: We used a cross-sectional research design. A sample of South African working adults ($n = 256$) completed the Job Crafting Questionnaire, Work-Related Flow Inventory and Job Performance Scale. We used structural equation modelling to investigate the indirect relationship.

Main findings: Work-related flow mediates the relationship between job crafting and performance. A negative relationship exists between job crafting and performance after controlling for work-related flow.

Practical/managerial implications: The results suggest that job crafting increases work-related flow. Work-related flow, in turn, is related to improved job performance. Therefore, employees might consider implementing job crafting as an accessible strategy to improve their job performance.

Contribution/value-add: This study supports our hypotheses that work-related flow mediates the relationship between job crafting and performance. Future research should investigate whether this indirect relationship adds incremental validity to work engagement.

Keywords: job crafting; work-related flow; job performance; proactive work behaviour; engagement.

Introduction

Job crafting, defined as proactive behaviours people use to modify and better engage with their job, is a popular work-related variable used to explain how people fulfil their job requirements while simultaneously meeting work goals and personal needs (Wrzesniewski & Dutton, 2001). Employees who engage in job crafting tend to have more positive work experiences. These experiences include, for example, improved work identity, better adaptation to change (Bruning & Campion, 2018), increased organisational goal achievement (Van Wingerden & Poell, 2017) and, relevant to our study, improved work performance (Bakker et al., 2012; Boehnlein & Baum, 2022). Regarding performance, studies have found direct relationships between job crafting and in-role and extra-role job performance (Bakker & Bal, 2010; Bakker et al., 2012; Chinelato et al., 2015). However, direct relationships ignore the indirect effect of other variables that might account for this relationship. It is necessary to investigate indirect effects (i.e. mediation) to help clarify the conditions or mechanisms under which job crafting relates to performance.

Several studies have examined indirect causal mechanisms for the job crafting-performance relationship. These studies have generally used and found support for work engagement as a mediator (Bakker et al., 2012; Lee & Lee, 2018; Petrou et al., 2012). However, engagement cannot be the only explanation for their relationship. We propose that work-related flow, which is similar, but not identical, to engagement (Schaufeli et al., 2006; Yan & Donaldson, 2022), is another possible mediator of the job crafting-performance relationship. Engagement, typically conceptualised as an outcome of job resources (Bakker & Albrecht, 2018), is a long-term affective-cognitive state of

vigour, dedication and absorption (Schaufeli & Bakker, 2010). In contrast, work-related flow, a positive emotional state where a person becomes absorbed in their work (Bakker, 2011; Bakker & Van Woerkom, 2017; Csikszentmihalyi, 1997), is a more complex, short-term and intense experience (Yan & Donaldson, 2022). Therefore, engagement and work-related flow might be different pathways through which job crafting can improve performance. Against this background, we set out to investigate the mediation effect of work-related flow on the relationship between job crafting and performance.

Literature

Job crafting

Organisational management has traditionally viewed designing or redesigning jobs as a top-down process (Berg et al., 2008). However, in recent years, job crafting has emerged as an alternative bottom-up approach to job design (Tims & Bakker, 2010). Wrzesniewski and Dutton (2001) define job crafting as the ongoing mental and physical changes employees make to their task, cognitive and relational boundaries. Task crafting refers to changes in structure, scope or the number of work-related tasks (Demerouti, 2014; Wrzesniewski & Dutton, 2001). Cognitive crafting is employee changes in perceptions and meaning ascribed to their job, and relational crafting changes to who or how employees interact with others at work (Demerouti, 2014; Wrzesniewski & Dutton, 2001). Tims and Bakker (2010) use the Job Demands-Resources (JD-R) model to explain job crafting. This model categorises job characteristics into demands and resources. Job demands are a job's physical, cognitive, psychological, social or organisational characteristics that require effort to overcome (Bakker et al., 2012). Job resources, in contrast, are job characteristics that motivate employees and allow them to achieve their goals (Bakker et al., 2012; Demerouti & Bakker, 2011). From the perspective of the JD-R model, job crafting is the changes employees make to reduce demands and mobilise resources (Petrou et al., 2012; Tims & Bakker, 2010).

Work-related flow

Csikszentmihalyi (1975) uses the term flow to explain people who persistently concentrated on a task despite inhibitors such as hunger, fatigue and discomfort and showed complete and conscious involvement in an activity (Csikszentmihalyi, 1997). It consists of three core dimensions. The first dimension is absorption, defined as a state of total immersion and concentration in an activity. Absorbed people may lose track of time when completing a task. The second dimension is enjoyment, an affective experience of happiness or joy in an activity. The third dimension is intrinsic motivation, which explains preoccupation with the activity for its worth rather than with the outcome of the activity (Bakker, 2008; Csikszentmihalyi, 1997; Nakamura & Csikszentmihalyi, 2002; Veenhoven, 1984).

Flow occurs when a person finds a balance between the challenges inherent in an activity and the skills required to master the activity and adapts their behaviour to ensure

this balance (Fullagar & Kelloway, 2009; Nakamura & Csikszentmihalyi, 2002). Researchers have argued that flow is a beneficial state of mind for employees. For example, Harris et al. (2017) write that flow is a necessary work experience because of its association with improved focus and confidence. Similarly, Bakker (2008) and Zubair and Anila (2015) argue that flow enhances psychological capital dimensions, such as self-efficacy, resilience and optimism, which help employees cope and persist with work tasks. Therefore, it is possible that flow, as a positive state of mind, allows employees to develop resources, reduce demands or negative experiences when faced with challenging tasks (Van Ittersum, 2015) and promotes better task engagement (Yan & Donaldson, 2022).

Job performance

Campbell (1999) defines job performance as using and directing knowledge, skills, capabilities and motivations when completing a task. Job performance has two broad dimensions (Borman & Motowidlo, 1993; Goodman & Svyantek, 1999). The first dimension is in-role behaviours, the focus of our study. These behaviours are skills or abilities required to complete a task and include, for example, key performance indicators and organisational objectives (Behrman & Perreault, 1984; Motowidlo et al., 1997). The second dimension is extra-role behaviours. These behaviours are voluntary, transcend formal job requirements and depend on individual difference variables such as personality or motivation (Motowidlo et al., 1997).

Job crafting and work-related flow

Csikszentmihalyi (2003) proposes organising work in such a way as to facilitate and catalyse the flow experience. Nielsen and Cleal (2010) focus on external flow catalysts, such as job planning and role clarity. In contrast, Fullagar and Kelloway (2009) suggest that flow requires energetic resources and the catalysts above. Bakker and Van Woerkom (2017) use self-determination theory (Deci & Ryan, 2000) to explain the proactive creation of flow. Deci and Ryan (2000) argue that people are inherently proactive, self-organising and steered towards growth, development and integrated functioning. According to Bakker and Van Woerkom (2017), self-leadership, strengths use, playful work design and job crafting, nested within a self-determination framework, promote flow. From this perspective, job crafting allows people to manage, modify and induce interest or passion in their job (Bakker & Van Woerkom, 2017; Berg et al., 2008). These outcomes, in turn, might result in person-job fit and facilitate the flow state (Tims & Bakker, 2010).

Work-related flow as a mediator between job crafting and performance

Parker (2014) suggests that employees engage in job crafting behaviours to improve their job knowledge, skills and performance and to meet their needs. Job crafting might also help buffer adverse effects at work that reduce job performance (Vogel et al., 2016). Previous research has found support for the mediation effect of engagement on job

crafting and performance. As we previously mentioned, engagement and flow are similar. However, they are not identical. For example, work-related flow is related to intrinsic motivation and is a short-term experience related to immediate tasks (Bakker, 2011; Csikszentmihalyi, 1997; Schaufeli et al., 2006). Work-related flow appears to be a positive emotional state, whereas engagement is an overall experience of work (Csikszentmihalyi, 1990; Van Ittersum, 2015). In this regard, Landhäußer and Keller (2012) argue that motivation, involving oneself with a task and positive affect, is core to work-related flow. Building on the mediation effect of engagement results, we argue that job crafting works in tandem with or precedes work-related flow (Bakker & Van Woerkom, 2017; Devotto et al., 2020). Specifically, we hypothesise that (H1) job crafting has a positive relationship with work-related flow and (H2) performance. Job crafting and work-related flow appear to jointly contribute to job performance (Bakker & Van Woerkom, 2017). Therefore, we hypothesise that (H3) work-related flow has a positive relationship with performance and (H4) mediates the relationship between job crafting and performance.

Method

Research design

We used a quantitative research approach with a cross-sectional research design.

Research participants

We used convenience and snowball sampling between June and August 2019 to obtain 256 participants. The participants comprised more self-identified women ($n = 131$, 51%) than self-identified men ($n = 125$, 49%). Most of the participants indicated they were black African ($n = 202$, 79%), followed by white ($n = 36$, 14%), mixed-race ($n = 8$, 3%) and Indian or Asian ($n = 9$, 4%). Regarding education, most participants had completed a certificate, diploma or undergraduate degree ($n = 119$, 46%). The remainder had a Grade 12 ($n = 35$, 14%) or post-graduate ($n = 31$, 12%) qualification. All the participants were employed, either in a contract or part-time position ($n = 50$, 20%), full-time position ($n = 174$, 68%) or some other position ($n = 32$, 13%), such as volunteering, an intern or self-employment.

Measuring instruments

The Job Crafting Questionnaire (JCQ) is a 15-item measure of self-reported job crafting behaviours (Slemp & Vella-Brodrick, 2013). It measures Task Crafting, Cognitive Crafting and Relationship Crafting using a six-point scale with *hardly ever* and *very often* anchors. We found Cronbach alpha coefficients of 0.79, 0.82 and 0.73 for the abovementioned scale scores. The Work-Related Flow Inventory (WOLF) is a 13-item measure of self-reported work-related flow experiences (Bakker, 2008). It measures Absorption, Enjoyment and Intrinsic Motivation using a seven-point scale ranging from *never* to *always*. We found Cronbach alpha

coefficients of 0.90, 0.95 and 0.86 for the abovementioned scale scores. The Job Performance Scale (JPS) is a seven-item measure of in-role job performance (Williams & Anderson, 1991). It is a unidimensional performance measure with a five-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Two items are reverse scored. We found a Cronbach alpha coefficient of 0.87 for the performance scale score.

Research procedure and ethical considerations

We hosted the questionnaires on Google Forms. An invitation to participate in the study with the survey link was shared with people through email and social media. We also invited participants to share the link with others in their network who might have been interested in participating. The Department of Industrial Psychology and People Management Ethics Committee provided ethical clearance for the study. We included a participant information sheet and consent form on Google Forms detailing the purpose of the study and what we required from participants. Participation in the study was voluntary.

Analysis

We used structural equation modelling (SEM) to investigate the mediation model. Ideally, polychoric correlation coefficients with diagonally weighted least squares estimation should be used with ordinal data (Holgado-Tello et al., 2010). However, we did not have enough data relative to the number of options in the response categories to obtain stable polychoric correlation coefficient estimates (Mair, 2018). Therefore, we decided to use the scale scores instead of the items as the manifest variables. We applied the graded response model to the items of each separate scale using the *mirt* package version 1.37 (Chalmers, 2012) in R version 4.1.2 (R Core Team, 2021) to obtain the expected a posteriori (EAP) factor score. These factor scores and the performance factor scores were used as manifest variables.

The mediation model was estimated using maximum likelihood estimation in lavaan version 0.6–12 (Rosseel, 2012). The mediation model consists of three paths: (1) the direct relationship of job crafting on work-related flow, (2) the partial relationship between work-related flow and performance and (3) the partial relationship between job crafting and performance. The indirect effect is the product of paths (1) and (2) above (Hayes, 2018). We used parametric bootstrapping with 5000 resamples to obtain the sampling distribution of the indirect effect. Causality can only be established in an experimental condition with a random assignment of participants (see Hayes, 2018). Therefore, our mediation model cannot be used to make definite causal statements.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Johannesburg College of Business and Economics Research Ethics Committee no IPPM-2019-353 [M].

Results

Descriptive analysis

Descriptive statistics for the scale factor scores are provided in Table 1. The skewness coefficients ranged from -0.58 to 0.43 , and the kurtosis coefficients ranged from -0.32 to 0.11 . Table 2 presents Pearson correlation coefficients between the scale factor scores and raw scores. Correlation coefficients for the raw scores are reported for those who require correlation coefficients for a meta-analysis. The Job Crafting factor scores had much smaller linear relationships with the performance factor scores compared to the flow factor scores.

Structural equation modelling

The SEM model showed satisfactory fit [$\chi^2(12) = 13.448$, $p = 0.337$, RMSEA = 0.022 , SRMR = 0.027 , CFI = 0.998 , TLI = 0.997]. Table 3 presents the path coefficients. Job crafting had a statistically significant positive linear relationship with flow ($b = 0.524$, $p < 0.001$). However, its partial-linear relationship with performance was not statistically significant after controlling for flow ($b = -0.139$, $p = 0.095$). Flow had a statistically significant positive partial-linear relationship with performance ($b = 0.262$, $p < 0.001$). The indirect effect was statistically significant ($b = 0.262$, $p < 0.001$). These results suggest that job crafting exerts its effect on performance by increasing flow, which, in turn, increases performance.

TABLE 1: Descriptive statistics for the scale factor scores.

Scale	Mean	SD	Median	Skew.	Kurt.	SE
Task crafting	0.00	0.92	0.04	-0.11	0.04	0.06
Cognitive crafting	0.00	0.91	0.01	-0.29	0.08	0.06
Relationship crafting	0.00	0.88	-0.01	0.02	0.11	0.05
Absorption	0.00	0.96	-0.15	0.34	-0.17	0.06
Enjoyment	0.00	0.97	-0.19	0.02	-0.32	0.06
Motivation	0.00	0.95	-0.18	0.43	0.11	0.06
Performance	0.00	0.96	0.06	-0.58	-0.02	0.06

SD, standard deviation; Skew., skewness; Kurt., kurtosis; SE, standard error of the mean. Factor scores have a mean of 0.00.

TABLE 2: Pearson correlation coefficients and reliability coefficients for the scale factor scores.

Scale	1	2	3	4	5	6	7	
Task	1	0.84	0.54	0.53	0.24	0.30	0.29	0.08
Cognitive	2	0.53	0.83	0.47	0.20	0.31	0.28	0.05
Relationship	3	0.48	0.45	0.77	0.29	0.30	0.32	0.10
Absorption	4	0.22	0.22	0.29	0.91	0.70	0.67	0.41
Enjoyment	5	0.27	0.32	0.29	0.70	0.94	0.82	0.46
Motivation	6	0.28	0.31	0.33	0.65	0.80	0.89	0.40
Performance	7	0.09	0.05	0.14	0.44	0.49	0.41	0.88

Note: Factor scores correlation coefficients below the diagonal. Raw score correlation coefficients above the diagonal. Marginal reliability coefficients on the diagonal.

TABLE 3: Estimated mediation model path coefficients.

Dependent	Independent	Path	<i>b</i>	CI	SE	<i>p</i>	Std.
Flow	Job crafting	<i>a</i>	0.524	[0.304, 0.777]	0.122	< 0.001	0.464
Performance	Flow	<i>b</i>	0.500	[0.360, 0.630]	0.068	< 0.001	0.592
	Job crafting	<i>c</i>	-0.139	[-0.306, 0.023]	0.084	0.095	-0.146
Indirect	.	<i>ab</i>	0.262	[0.149, 0.390]	0.060	< 0.001	0.275
Total	.	<i>c'</i>	0.123	[-0.046, 0.279]	0.082	0.135	0.129

Dependent, dependent variable; Independent, independent variable(s); *b*, unstandardised path coefficient; Std., completely standardised path coefficient; CI, 95% confidence intervals; SE, bootstrapped standard error of the unstandardised path coefficient.

Discussion

We set out to investigate the mediation effect of work-related flow on the relationship between job crafting and in-role performance.

Hypothesis 1: Relationship between job crafting and work-related flow

Our results showed that job crafting had a positive linear relationship with flow supporting our first hypothesis. The exact causal mechanism explaining this relationship is unknown. However, we argue that those who craft their jobs may be more likely to increase their attention, time and energy towards their job (Berg et al., 2010) and therefore be more involved or engaged with their work (Lu et al., 2014).

Hypothesis 2: Relationship between job crafting and performance

Pearson correlation coefficients showed that task and cognitive crafting did not have statistically significant linear relationships with performance. Our results differ from other studies that have generally shown statistically significant positive relationships between job crafting and performance (Lazazzara et al., 2020). The partial-linear relationship between job crafting and performance was also not statistically significant. Therefore, our second hypothesis was not supported. Although not statistically significant, the partial linear relationship between job crafting and performance was negative. This partial linear relationship suggests that job crafting might be detrimental to performance after controlling for variance shared with flow. However, we do not over-interpret these results because the relationship was not statistically significant, and our research design can capitalise on sample-specific results. For example, most of the participants in our sample were employed in their current position for less than 5 years. Berg et al. (2008) argue that the longer people work in a position, the more likely they are to engage in job crafting and effectively so.

Hypothesis 3: Relationship between flow and job performance

Our results showed that flow had a statistically significant positive partial linear relationship with performance supporting our third hypothesis. Chu and Lee (2012) find similar results. This relationship suggests that employees who experience flow are more likely to benefit from the outcomes of these experiences. One of these outcomes is improved job performance. The exact mechanism explaining this outcome is unknown. However, it is possible that flow activates psychological processes and facilitates the development of job-related skills that can improve performance (Landhäuser & Keller, 2012).

Hypothesis 4: Flow mediates the relationship between job crafting and job performance

We found a statistically significant indirect effect supporting our fourth hypothesis. The results showed that employees who

craft their job experience more flow. Flow, in turn, is related to better performance. Therefore, job crafting might be an effective strategy for employees to improve their performance (Bruning & Campion, 2018; Lazazzara et al., 2020). Flow might also be an alternative explanation to engagement for the relationship between job crafting and performance.

Implications

Our results make two contributions to theory. Firstly, the results suggest that job crafting in and of itself might not explain performance. Instead, shared variance with other relevant psychological constructs, such as engagement or flow, might explain the relationship. Secondly, the results suggest that job crafting might activate conditions that facilitate flow, which, in turn, might improve performance. Therefore, flow might be as important as engagement in explaining the relationship between job crafting and performance. Our study is also considered to have practical value. With an increasingly competitive business environment, it is becoming more critical for organisations to seek and embrace employees who can be fully invested in and proactively manage their work (Bacaksiz et al., 2017; Salanova & Schaufeli, 2008). Therefore, this study highlights job crafting as a potential strategy that employees can use to initiate their own positive experiences such as flow, which in turn, may improve their performance. Furthermore, it highlights the value employers may realise from promoting proactive behaviours such as job crafting. Among other things, this may be achieved through increasing job autonomy and training employees on goal-setting and social skills (Costantini et al., 2022; Sekiguchi & Hasomi 2017).

Limitations

The limitations of our study should lead to caution in interpreting the results. The most significant limitation is that we could not test causal effects. Establishing causal effects is a difficult task requiring proper experimental conditions (Hayes, 2018). Therefore, the relationships should not be used to make definite statements on the relevance of work-related flow (Landhäußer & Keller, 2012). For example, it is equally plausible to suggest that flow causes crafting. In addition, we cannot rule out engagement as another relevant variable in the causal link. We encourage further research on the mediation model tested in this study. For example, engagement scores can be obtained to clarify if engagement, flow or their combination are potentially relevant mediators. It is also necessary to control for other related variables, such as personality traits or work conditions to clarify the unique contribution of job crafting on flow and flow on performance (Landhäußer & Keller, 2012; Yan & Donaldson, 2022). The sample characteristics are also a significant limitation. Non-probability sampling leads to a patchwork of uncontrolled variables. This patchwork makes it challenging to establish which variables might explain relationships. Researchers should consider controlling for other relevant variables to remove their

potential explanation for relationships between job crafting, flow and performance (see Landhäußer & Keller, 2012). A third limitation is that our results cannot be generalised outside the measures used to operationalise job crafting, flow and performance. Similar results to ours using other operationalisations are needed to support our findings.

Conclusion

We set out to investigate the indirect effect of work-related flow on the relationship between job crafting and in-role job performance. Our results indicated that work-related flow is a potential explanation for the relationship between job crafting and performance. Furthermore, our results suggest a need for employers to promote and draw employees' attention to job crafting as a potential strategy to create positive work experiences and improve performance.

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Competing interests

The authors have declared that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

B.W.M. conceptualised and completed the write-up of the research. S.L.P. performed the statistical analysis, reviewed and edited the research. C.H. oversaw and supervised the research. B.M. assisted with the article revision. He performed the statistical analysis, reviewed and edited the research.

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Data availability

The data that support the findings of this study are available on request from the corresponding author, B.W.M.

Disclaimer

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