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# The influence of leadership on work engagement mediated by job crafting



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**Orientation:** Work engagement, specific leadership styles, and the willingness to allow autonomous behaviour (viz. job crafting) are essential to foster positive employee outcomes.

**Research purpose:** The study investigates the effect of leadership on an employee's likelihood to initiate changes to the work environment (viz. job crafting) and how these changes hypothetically contribute to work engagement.

**Motivation for the study:** A paucity of studies focuses on leadership and the nexus thereof with job crafting as mediator towards fostering positive employee outcomes in the South African context.

**Research approach/design and method:** A quantitative cross-sectional research design was implemented by means of a questionnaire. Primary data were collected from 155 participants ($N$ = 155) with at least 2 years of work experience. Statistical analysis included structural equation (direct effects) and mediation modelling (indirect effect) to ascertain the mediating role of job crafting.

**Main findings:** The research study concluded that both leadership styles statistically significantly contributed to job crafting. Self-leadership statistically significantly contributed to work engagement. While empowering leadership did not directly yield a statistically significant effect on work engagement. Job crafting was found to be a statistically significant mediator that mediates the nexus between leadership styles and work engagement.

**Practical/managerial implications:** Results presented emphasised the value of self-leadership in developing a proactive workforce. Moreover, empowering leadership should be investigated further. Job crafting is crucial for empowering leadership to improve work engagement.

**Contribution/value-add:** This study contributes to the corpus of knowledge regarding the nexus between leadership styles, job crafting, and work engagement.

**Keywords:** work engagement; self-leadership; empowering leadership; job crafting; job demand-resource model; leadership.

## Introduction

A key research area that has emerged underscore employees and the innate ability to self-direct, self-manage, and improve work-related problems (Thun & Bakker, 2018). Comprehending how employees create a resourceful work environment has gained prominence in recent years ascribed to changes in the organisational landscape characterised by technological advances (Tims et al., 2013). Job crafting, for example, has been proposed to address these challenges. The aforementioned is a form of proactive behaviour, because it affords employees' agency to initiate changes in job demands and resources to cultivate solutions and create meaningful, engaging and satisfying jobs (Demerouti, 2014). Therefore, job crafting could be deemed an antecedent of work engagement as employee outcome (Yang et al., 2017 citing Demerouti, 2014).

It is pivotal that employees create a work environment that fosters the achievement of occupational and personal goals (Tims et al., 2013), especially, because jobs are increasingly viewed as an individual responsibility (Grant & Ashford, 2008). Despite this, the job-crafting behaviour of employees is legitimised by leadership (Wang et al., 2018). Naeem et al. (2020), reflecting on extant research, expound several studies (see, e.g. Thun & Bakker, 2018; Wang et al., 2018) that have investigated the impact of various leadership styles, including empowering leadership, as predictors of job-crafting behaviour. Radstaak and Hennes (2017) conducted a study in the Netherlands underscoring the correlation between leader-member exchange and work engagement mediated by job crafting. A paucity of studies focuses on the influence of leadership

on work engagement mediated by job crafting within the South African context. Hence, the research reported on emphasises self-leadership and empowering leadership and the effect thereof on job crafting to enhance work engagement.

## Study background

Work engagement is deemed a critical factor influencing organisational success and employee well-being (Radstaak & Hennes, 2017). Recent trends in work engagement research underscore investigating the predictors of work engagement, notably job and personal resources as well as mediating factors (Bakker & Albrecht, 2018). Despite burgeoning research, the determinants of work engagement are not yet fully understood, particularly within the context of empowering leadership (Alotaibi et al., 2020) and self-leadership (Schultz, 2021). Moreover, self-leadership is deemed a personal resource, and empowering leadership is positioned as a job resource. The mentioned assertion is based on the definition of self-leadership, which is a process of self-influencing (Goldsby et al., 2021, p. 1) and therefore a personal resource. However, Schultz (2021) expounds that self-leadership is an integral facet of job resources influencing work engagement. While empowering leadership defines leaders who allow for autonomy and responsibility (Cheong et al., 2019) and thus a job resource. Considering the aforementioned, Alotaibi et al. (2020) posit that a lacuna of research emphasises the association between empowering leadership and work engagement. Similarly, the association between self-leadership and work engagement has not been researched extensively (Costantini & Weintraub, 2022). The previously mentioned authors identified job crafting as a mediating variable in the nexus between self-leadership and work engagement (Costantini & Weintraub, 2022). Self-leadership and job crafting as constructs seem to have similarities, notably self-influencing and self-initiated behaviour, respectively. As such, job crafting is defined as proactive, self-initiated, and change-orientated employee behaviour towards improved person-job fit (Tims et al., 2016). Self-influencing would be a prerequisite for self-initiated behaviour.

Moreover, job crafting has been associated with positive work outcomes, for instance, work engagement (Meijerink et al., 2018). Leadership styles have been proposed as a key factor promoting work engagement towards creating a flourishing workplace (Yang et al., 2017). However, the particulars related thereto are not yet fully understood.

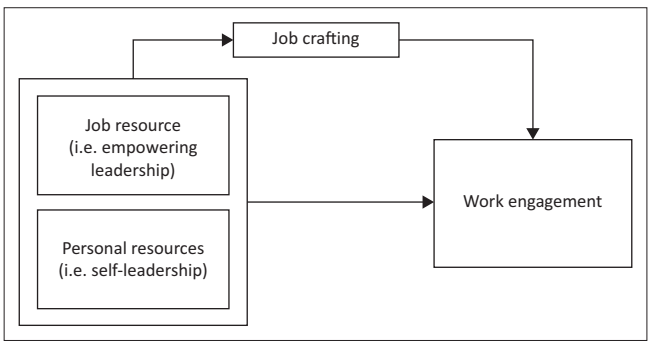
## Underpinning theory

The job demands-resource (JD-R) model is a popular framework for assessing work engagement and emphasises the importance of job-related resources (Hakanen & Roodt, 2010). The model conceptualises the impact of job demands and resources and is particularly efficient when predicting work engagement (Demerouti & Bakker, 2011). Job demands can take the form of social, organisational, physical, or psychological job aspects that require consistent effort or mastery (Demerouti & Bakker, 2011). Job resources refer to the social, organisational, physical, or psychological aspects of the job that contribute to achieving work goals. These job resources might contribute to diminishing job demands and promoting personal growth, learning, and development (Demerouti & Bakker, 2011). Recent versions of the JD-R model have included job crafting as an additional variable to mediate high job demands because it was established that employees motivated by work are more likely to craft and attain job and personal resources (Bakker & Demerouti, 2017). In accordance with the JD-R model, self-leadership is deemed a personal resource, while empowering leadership is a job resource (Figure 1).

# Literature review

## Work engagement

Masukela et al. (2023), reflecting on extant research, defined work engagement as a positive, satisfying work-related state of mind consisting of three interconnected characteristics, *inter alia*, physical, emotional, and cognitive. Seminal authors, such as Schaufeli et al. (2006, p. 702), advanced a definition for work engagement, namely a 'positively fulfilling, work-related state of mind characterised by vigour, dedication, and absorption'. Schultz (2021), reflecting on previous research, expounds that vigour refers to an increased readiness to devote effort and developing tenacity to remain resolute regardless of circumstances. Mills et al. (2012) note that vigour could be deemed as high levels of effort, resilience, energy, motivation, and persistence invested in the work performed by employees. Dedication refers to being strongly involved or immersed in one's work while simultaneously experiencing a sense of value, significance, enthusiasm, and challenge (Schultz, 2021). Therefore, dedication is concerned with the level of involvement and enthusiasm that employees exude in their work, a sense of pride and inspiration (Mills et al., 2012). Lastly, absorption denotes being completely engrossed in one's work (Schultz, 2021). Work engagement is a reasonably stable state associated with job-related well-being (Mäkikangas et al., 2022) and a predictor of employee-, team, and organisational-level outcomes (Bakker & Albrecht, 2018). Work engagement has been




*Source*: Adapted from Bakker, A.B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 3. https://doi.org/10.1037/ocp0000056

**FIGURE 1:** The job demands-resources model.

proven to have significant implications for productivity (Abdelwahed & Doghan, 2023; Abdulrahman et al., 2022; Patro, 2013).

## Self-leadership

Self-leadership is the 'process of influencing oneself' characterised by self-direction and self-motivation, which have been identified as essential tools for effective workplace performance (Goldsby et al., 2021, p. 6). From this stance, an employee or a team self-governs by analysing the current situation and determining how to bridge the gap to acquire the desired outcomes (Stewart et al., 2011). A prominent aspect of self-leadership revolves around self-control or self-management. When there are no exaggerated external distractions, employees can remain positively engaged in their activities (Stewart et al., 2011). Moreover, self-leadership emphasises self-influencing, thus the strategies that the employee put in place to self-influence (Stewart et al., 2011). Significant domains of self-influencing involve self-observation, self-goal setting, self-management of cues, self-reward, self criticism, and rehearsal. Self-observation alludes to individual awareness of behaviour and the reasons therefore (Alves et al., 2006). This level of awareness helps identify behaviour that can be developed or needs to be discarded. Being self-aware makes it easier to set (realistic) goals (Stewart et al., 2011). Self-awareness allows employees to decide which goals are worth pursuing (Alves et al., 2006). Setting internalised goals is likely to promote work performance (Stewart et al., 2011). When employees accomplish pre-established goals, they experience self-reward. Stewart et al. (2011) argue that these self-rewards energise the employee to keep improving. Considering this, self-leadership is deemed a personal resource.

## Empowering leadership

Empowering leadership is concerned with sharing power and enhancing internal motivation to foster autonomy and responsibility (Cheong et al., 2019). Empowering leadership is multifaceted, as it is influenced by support, employee coaching, and delegation (Cheong et al., 2019). On a leader-subordinate level, empowering leadership emphasises trust and the leader-member exchange (Liu, 2015). This study emphasises empowering leadership as a specific set of behaviours exhibited by leaders that, in turn, result in psychological empowerment and ultimately lead to desirable work outcomes. The central behavioural focus of empowering leadership emphasises task and rational leader support (Cheong et al., 2019). Arnold et al. (2000) introduced characteristics that need to be present to be classified as an empowering leader, namely (1) the willingness to lead by example, (2) willingness and ability to coach, (3) the leader must be encouraging, (4) willingness to engage in participative decision-making that relinquishes some power to employees, and (5) simultaneously, the leader should show concern and be informative towards subordinates.

## Job crafting

Job crafting underscores how employees proactively adapt work methods and task completion by assigning different meanings to tasks, choosing the tasks to perform, and negotiating job contents (Demerouti, 2014). A pre-requisite for job crafting subsumes employees voluntarily initiate change to tasks or job characteristics (Demerouti, 2014) that is usually spontaneous and unsupervised (Lyons, 2008). Demerouti (2014) defines job crafting as the process through which employees shape their jobs. Furthermore, Wrzesniewski and Dutton (2001) expand the definition by stating that job crafting subsumes physical and cognitive modifications that employees make in relation to tasks and work boundaries. Job crafting encompasses numerous ways in which employees can redesign their jobs to promote job satisfaction, working engagement, resilience, and thriving at work (Berg et al., 2008). Job crafting unfolds in three different ways. Firstly, task crafting is concerned with how employees change work-related responsibilities, including changing or rearranging the scope of their work or related job functions (Zhang & Parker, 2018, reflecting on research by Wrzesniewski & Dutton, 2001). Employees are also at liberty to negotiate their job specifications (Zhang & Parker, 2018, reflecting on seminal work by Wrzesniewski & Dutton, 2001). Secondly, relational crafting entails that, to varying degrees, the job crafter decides the frequency and depth of engagement with colleagues. Lastly, cognitive crafting addresses how employees perceive their work tasks (Berg et al., 2008), viz. the impact of the job role.

## Hypothesis development

### Self-leadership and job crafting

Self-leadership focusses on employees' self-influencing behaviour aimed at improving individuals' performance in the workplace (Goldsby et al., 2021) by means of self-motivation and self-direction. Extant research has shown that self-leaders are confident and have an innate sense of ownership ascribed to the control exerted over their work (Stewart et al., 2011). Rudolph et al. (2017) expound that job autonomy and self-efficacy have a positive influence on job crafting. It would appear as if the aims of job crafting and self-leadership are aligned. To this effect, Liu et al. (2023) reported that self-leadership has a statistically significant positive impact on job crafting. Furthermore, Safarova and Sehitoğlu (2022) found that self-leadership had a statistically significant positive impact on job crafting ($\beta = 0.433$; $p \leq 0.000$**). Lastly, Costantini and Weintraub (2022) reported that the self-goal-setting part of self-leadership statistically significantly predicts job crafting. Considering the aforementioned, the following hypothesis was formulated:

**H1:** Self-leadership statistically significantly predicts job crafting.

### Self-leadership and work engagement

Scholars have studied the relationships that exist between self-leadership and positive job outcomes (see, e.g., Knotts & Houghton, 2021). Unsworth and Mason (2012) maintain that

self-leadership, as a personal resource, serves to strengthen work engagement. Breevaart et al. (2016) investigated the relationship between self-leadership and work engagement, establishing a positive correlation and causation. Knotts and Houghton (2021) investigated the relationship between self-leadership and work engagement and found that self-leadership statistically significantly influenced work engagement. In addition, research by Park et al. (2016) confirmed that self-leadership has a significant effect on work engagement. Schultz (2021) reported that 45% of the variance in work engagement could be attributed to self-leadership. Based on the findings, we formulated the following hypothesis:

**H2:** Self-leadership statistically significantly predicts work engagement.

### Empowering leadership and job crafting

With empowering leadership, a great deal of the responsibility is placed on the leader to motivate and influence subordinates (Cheong et al., 2019). Audenaert et al. (2020) found that empowering leadership statistically significantly contributed to job crafting. Thun and Bakker (2018) established that empowering leadership is a statistically significant predictor of job crafting. The mentioned finding was substantiated by Tang et al. (2020), who concluded that under specific conditions empowering leadership promotes job crafting. Self-determination theory has been suggested to aid in conceptualising the relationship that exists between job crafting and empowering leadership (Thun & Bakker, 2018). The contention is that empowering leaders provide employees with the latitude to design their work espoused with autonomy, resulting in job crafting behaviour (Kim & Beehr, 2018). Based on the findings, we formulated the following hypothesis:

**H3:** Empowering leadership statistically significantly predicts job crafting.

### Empowering leadership and work engagement

Lee et al. (2016) reported that empowering leadership increases work engagement by means of meaningfulness. Additionally, a study by Wen et al. (2022) revealed that empowering leadership was positively correlated with work engagement in the Chinese hospitality industry. Arshad et al. (2022) reported that empowering leadership statistically significantly influenced work engagement in Pakistan. Therefore, empirical evidence supports the contention that empowering leadership positively influences work engagement (see, for example, Cai et al., 2018; Guy Park et al., 2017). Considering the preceding discussion, the following hypothesis was formulated:

**H4:** Empowering leadership statistically significantly predicts work engagement.

### Job crafting and work engagement

The nexus between job crafting and work engagement has been researched within the South African context. *Per se*, Peral and Geldenhuys (2016) established a statistically significant correlation between job crafting and work engagement of secondary school teachers. De Beer et al. (2016) reported a statistically significant association between job crafting and work engagement in the mining and manufacturing sector. Thomas et al. (2020) expound that job crafting enabled managers in the construction industry to proactively improve work engagement. Internationally, Tims et al. (2012) concluded that job crafting correlated positively with self-evaluated work engagement. While Kuijpers et al. (2020) found that job crafting intervention can be an effective tool for enhancing work engagement for employees with a high workload. Moreover, Lu et al. (2014) observed that job crafting is a proactive behaviour that has been confirmed as a mediator towards improving work engagement. Demerouti et al. (2015) investigated the nexus between job crafting and extra-role behaviour mediated by work engagement. Thus, the relationship between job crafting and work engagement could either be a direct or indirect association. Based on extant research, the following hypothesis was formulated:

**H5:** Job crafting statistically significantly predicts work engagement.

### The influence of self-leadership on work engagement mediated by job crafting

A study was conducted on nurses to assess how self-management strategies affect work engagement (Breevaart et al., 2014). Self-managing and self-regulating actions were critical in the initial stages of predicting work engagement, aiding participants to keep track of progress and enabling participants to set realistic goals (Breevaart et al., 2014). Self-goal setting and self-observation are essential, allowing employees to improve self-awareness, usually leading to the identification of aspects that need to be altered, developed, or discarded (Houghton & Neck, 2002), resulting in employees setting new goals to improve the work situation and reach work goals. Job crafting increases work engagement in two distinct ways. Firstly, when employees employ self-directed behaviour (Bakker & Leiter, 2017), taking initiative to improve the status quo to meet work goals continuously. Secondly, an increase in personal resources increases work engagement by dealing with current job demands (Bakker & Leiter, 2017). Costantini and Weintraub (2022) found that self-leadership allows a higher availability of resources, enabling the proactive initiation of social interactions, which enhances work engagement. The previous authors asserted that self-leadership as a strategy provides employees with internalised motivation to adapt to the work environment proactively through job crafting, thereby fostering work engagement (Costantini & Weintraub 2022). The following hypothesis has been formulated based on the supposition put forward:

**H6:** The association between self-leadership and work engagement can statistically significantly be mediated by job crafting.

### The influence of empowering leadership behaviour on work engagement mediated by job crafting

Empowering leadership can act as a predictor of job crafting (Kim & Beehr, 2018). Leaders play a pivotal role in whether employees can job craft, which, in turn, increases job resources. Empowering leaders can offer employees developmental support and autonomy to restructure work (Kim & Beehr, 2018). Thus, empowering leaders provide employees with copious motivation (Jiang et al., 2021), include them in decision-making processes and encourage self-management through proactive behaviour (Jiang et al., 2021), resulting in increased levels of work engagement (Lu et al., 2014). According to Jiang et al. (2021), this proactive behaviour might manifest through job crafting, allowing employees to decrease high job demands, identify new job challenges, or increase job resources. Through the support of empowering leaders, employees can job craft, increasing resources and enabling work engagement. Along these lines, Orth and Volmer (2017) expound that job resources, *inter alia*, empowering leadership, facilitate work engagement and produce job crafting behaviour. Jaleel and Sarmad (2023) provide evidence for a predictive relationship between empowering leadership and job crafting mediated by work engagement. Based on the preceding discussion, there appears to be a mediating relationship between the latent variables. The following hypothesis has been formulated based on the supposition:

**H7:** The association between empowering leadership and work engagement can statistically significantly be mediated by job crafting.

### Hypothesised model

A hypothesised model was developed with the preceding literature review and graphically depicted in Figure 2.

# Research method

## Research design and sample

The research reported on adopted a cross-sectional quantitative research approach. The approach is suitable for the study ascribed to making provision for describing variables, investigating the relationship thereof, and examining whether there is a cause-and-effect association between them (Burns et al., 2015). A quantitative research approach was selected for the research study since it allows for the quantification and measurement of data (Ahmad et al., 2019). A cross-sectional design investigates latent variables at a specific point (Zake et al., 2024).

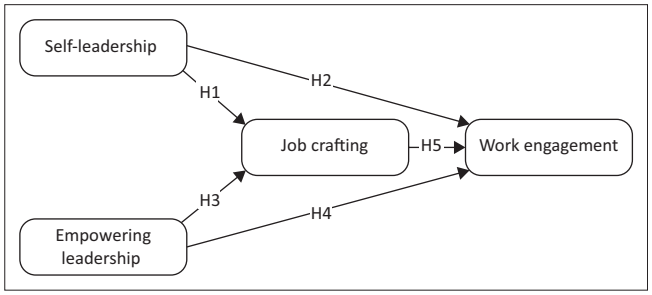



**FIGURE 2:** Hypothesised model with latent variables.

The target population for the study was the economically active population within the South African workplace; the inclusion criteria used to draw the sample were age, work experience, and English language proficiency. Eligible participants had to be 18 years or older with at least two or more years of working experience. The final sample for the study comprised 155 ($n$ = 155) participants, which was obtained by means of convenience sampling. Participants between 25 years and 34 years of age were well represented, comprising 49.7% ($n$ = 77) of the sample. Moreover, participants in the 35 to 44 years age categories followed, representing 23.9% ($n$ = 37) of the sample, followed sequentially by the other age categories. Participants offering professional services as well as participants employed in the financial and insurance sector constitute a large portion of the sample, comprising 27.1% ($n$ = 42), respectively. Participants employed in the education sector ($n$ = 17; 11%) and healthcare sector ($n$ = 11; 7.1%) followed.

## Data collection procedure

Participants were contacted by means of electronic correspondence; thus, an email link was distributed to potential participants requesting participation in the study by utilising the link provided. After participants had clicked on the electronic link, the questionnaire was administered on Google Forms. Participants had to provide informed consent before completing the online questionnaire by selecting the appropriate icon indicative of a consent decree.

## Measures

Primary data were collected by means of implementing an electronic structured measuring instrument consisting of four sections. Section A comprised self-reporting socio-demographic items used to present a profile of the sample. Questionnaire items required particulars underscoring the participant's age, industry, and years in a supervisory role. The Utrecht Work Engagement Scale (UWES-9) measured work engagement. The UWES originally contained 17 items but was shortened to include only nine items (UWES-9). The UWES-9 is a self-report questionnaire that looks at three dimensions of work engagement, namely vigour, dedication, and absorption (Schaufeli et al., 2006). Items were measured using a Likert-type scale ranging between 0 (never) and 6 (every day). The UWES-9 has been used extensively within the South African context, reverting acceptable internal consistency. For example, De Bruin and Henn (2013) reported a Cronbach's alpha coefficient of 0.92 in a South African study comprising the working-age populace. Similarly, Engelbrecht et al. (2019) reported an alpha coefficient of 0.9 for the total scale in a sample comprising nurses within the South African context. Thus, the UWES-9 can be regarded as a reliable instrument to measure work engagement in the current sample.

Job crafting was measured using the job crafting questionnaire, which contains 15 items (Slemp & Vella-Brodrick, 2013). The scale measures three dimensions, namely task crafting, relational crafting, and cognitive crafting, evaluating different processes that employees can adopt to instil change in the working environment (Slemp & Vella-Brodrick, 2013). The items were measured using a Likert-type scale, ranging from 1 (hardly ever) to 6 (very often). The psychometric properties of the job crafting scale were confirmed by the developers (Slemp & Vella-Brodrick, 2013). Regarding reliability, the Cronbach's alpha coefficient for the total scale was $\alpha = 0.91$. Specifically, the alpha coefficient for the subscales task crafting ($\alpha = 0.87$), cognitive crafting ($\alpha = 0.89$), and relational crafting ($\alpha = 0.83$) could be deemed exceptional. Within the South African context, Ncemane et al. (2021) implemented an abridged version of the job crafting questionnaire by Slemp and Vella-Brodrick (2013) and reported an acceptable reliability score of $\alpha = 0.75$. Thus, the measuring instrument is suitable for use within the South African context.

The abbreviated self-leadership questionnaire (ASLQ), developed by Houghton et al. (2012), was implemented to measure self-leadership. The questionnaire consists of nine items measuring three dimensions, namely, behavioural awareness and violations, task motivation, and constructive cognition (Houghton et al., 2012). A five-point Likert scale was used, ranging from 1 (i.e. strongly disagree) to 5 (strongly agree). Considering the psychometric properties of the ASLQ, the developers reported an acceptable Cronbach's alpha value of $\alpha = 0.73$ (Houghton et al., 2012). Comparatively, Nel and Van Zyl (2015) reverted an internal consistency value of $\alpha = 0.83$ in a South African study. Schultz (2021) reported an alpha value $\alpha = 0.854$ for behaviour awareness, volition, and task motivation as well as a reliability score of 0.752 for constructive cognition. Thus, the ASLQ can be regarded as a reliable instrument to measure self-leadership in the current sample.

Empowering leadership was measured using the empowerment leadership scale (ELS) developed by Amundsen and Martinsen (2014). The ELS consists of 24 items measuring 8 dimensions on a 7-point Likert-type scale (1 = never to 7 = always), including (1) delegation; (2) initiative; (3) goal focus; (4) efficacy support; (5) inspiring dimension; (6) coordinating; (7) guidance; and (8) modelling (Amundsen & Martinsen, 2014). Acceptable reliability values were reported by the developers, *inter alia*, delegation ($\alpha = 0.78$), coordinating ($\alpha = 0.83$), initiative ($\alpha = 0.84$), goal focus ($\alpha = 0.85$), support ($\alpha = 0.81$), inspiring ($\alpha = 0.82$), modelling ($\alpha = 0.89$), and guidance ($\alpha = 0.85$) (Amundsen & Martinsen, 2014). Validation studies underscoring the use of the ELS within the South African context are scant but are deemed applicable for use in an international sample.

## Data analysis

Statistical analyses were conducted using the Statistical Package for Social Sciences (IBM SPSS) version 29, SPSS AMOS version 29, and SPSS process macro version 4.3 (model 4). Descriptive and inferential statistical analyses were performed. Various descriptive statistics were consulted, *inter alia*, mean, standard deviation, skewness, and kurtosis. Skewness is a measure of asymmetry, and kurtosis measures how peaked or flat a distribution is (Kim, 2013). Mabitsela et al. (2024), reflecting on previous research, noted cut-off values smaller than ±2 for skewness and ±4 for kurtosis to be preferred. The psychometric properties of the measuring instrument were investigated. Cronbach's alpha coefficient was computed to confirm the internal consistency of the measuring instrument. Composite reliability (CR) was computed with values exceeding the recommended threshold of 0.7, whereas the average variance extracted (AVE) values that exceed 0.5 are evidence of convergent validity (Zake et al., 2024). Lastly, the AVE should be greater than the maximum shared variance (MSV) to confirm discriminant validity (Cheung et al., 2023). Common method bias was recognised as a threat to the integrity of the study (Kock et al., 2021, p. 2). Common method bias is a potential threat when the latent variables are measured using a comparable response scale, which could lead to correlation parameter estimate bias among variables (Du Plessis, 2023). Methods used to control for common method bias subsume an unrotated exploratory factor analysis (EFA). If one factor accounts for more than 50% of the variance, common method bias is present (Kock et al., 2021). Inferentially, the bivariate correlation coefficient was computed to determine whether the relationship in the sample data is significant for modelling the population (Illowsky & Dean, 2018). Structural equation modelling (SEM) was performed to ascertain the direct effect between variables and test hypotheses 1–5. A bias-corrected percentile bootstrap method was calculated to determine the mediating effect of job crafting with 95% lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) ranges excluding zero (McCallaghan et al., 2019). The PROCESS version 4.3 SPSS macro (model 4) software was utilised to test hypothesis 6 and hypothesis 7, underscoring the indirect mediation effect of job crafting (Du Plessis, 2023). Statistical significance was set at either the 99th ($p \leq 0.01$) or 95th ($p \leq 0.05$) percentile.

## Ethical consideration

Ethical clearance to conduct this study was obtained from the University of Johannesburg, Department of Industrial Psychology and People Management Research Ethics Committee (IPPM-2022-629[M]).

# Results

## Psychometric properties of the measurement scales

The psychometric properties of the measuring instruments were evaluated, and the results are presented in Table 1.

As can be seen from Table 1, self-leadership had a Cronbach's alpha coefficient of 0.73 (acceptable), empowering leadership $\alpha$ = 0.95 (exemplary), job crafting $\alpha$ = 0.87 (exemplary), and the Cronbach's alpha of work engagement was 0.94, which is outstanding. The CR scores surpassed the recommended threshold of 0.7, although the convergent validity AVE scores were 0.5 and above (Cheung et al., 2023). In particular, the scores were as follows: self-leadership (CR = 0.90; AVE = 0.52), empowering leadership (CR = 0.96; AVE = 0.50), job crafting (CR = 0.95; AVE = 0.57), and work engagement (CR = 0.95; AVE = 0.59). Therefore, the convergent validity of the latent variable in the measurement model was confirmed. Discriminant validity was established, viz. the latent variables differ significantly from each other, as seen from the higher AVE scores in comparison to the MSV values (Zake et al., 2024). Considering these results, the measuring instruments were deemed reliable and valid.

## Common method bias

Monitoring for common method bias compels computing an EFA with an unrotated factor solution to determine the number of factors that account for 50% of the variance (Du Plessis, 2023). Initial results indicate that the Kaiser–Meyer–Olkin (KMO) test for sampling adequacy was 0.852, and Bartlett's test of sphericity had a statistically significant *p*-value on the 99th percentile ($\chi^2$ = 15886.422; degrees of freedom [*df*] = 2145; *p* = 0.000**). An unrotated factor analysis was performed, which indicated that 11 factors accounted for 70.594% of the variance. Moreover, factor 1 accounted for 26.754% of the variance. Based on these results, common method bias was not evident in the research reported on.

## Measurement model fit

Structural equation modelling was performed to establish whether the structural model is appropriate for the data and therefore suitable for further analysis and to evaluate the theoretical model in relation to empirical data. Specifically, a maximum likelihood estimation in SPSS Amos 28 was calculated. Results returned a minimum fit ($\chi^2$ = 14.973; *p* = 0.002; *df* = 3; Chi-square/degree of freedom [CMIN/*df*] = 4.993 normed fit index [NFI] = 0.90; Tucker–Lewis's index [TLI] = 0.820; comparative fit index [CFI] = 0.911; root mean square error of approximation [RMSEA] = 0.161). An explanation of the results revealed that the CFI value exceeds 0.90, demonstrating an acceptable model fit (Van Zyl & Ten Klooster, 2022). It is, therefore, concluded that the statistical data are suitably appropriate for the theoretical model and can be used for further analysis.

## Measure of central tendency and descriptive results

Table 2 provides a summary of the descriptive information computed.

Table 2 indicates that all the latent variables reverted to slightly negative mean scores. More specifically, the mean score of self-leadership was 34.96 with a median of 35.00, which indicates a moderately negative perception of self-leadership among participants. Similarly, regarding empowering leadership, a mean score of 121.95 was produced compared to a median of 122, implying that the participants feel reasonably to negatively empowered by their leaders. Considering work engagement, a mean of 46.08 and a median of 47.00 were produced, indicating that participants are relatively negatively engaged in their work. Lastly, considering job crafting, a mean score of 67.08 and a median of 68.00 were obtained, which shows a moderate to negative level of job crafting in the sample. Skewness (−0.51) and kurtosis (0.76) show a slightly left-skewed dataset with a normal distribution that is centred. They also imply higher scores recorded on the scale. The skewness and kurtosis results are within the prescribed threshold values (skewness $\leq \pm 2$; kurtosis $\leq \pm 4$). As a result, the assumption of univariate normality was met and supported. Consequently, the maximum likelihood method utilised to evaluate the fitness of the model was deemed fit.

## Bivariate correlation analysis

In accordance with the assumption that univariate normality was met, bivariate correlation analysis was performed to ascertain the strength and direction of the association between the latent variables, *inter alia*, self-leadership, empowerment leadership, job crafting, and work engagement, with results displayed in Table 3.

**TABLE 1:** Reliability and construct validity results.

| Scales | Cronbach's alpha | Construct validity | | |
|---|---|---|---|---|
| | | CR | AVE | MSV |
| Self-leadership | 0.73 | 0.90 | 0.52 | 0.09 |
| Empowering leadership | 0.95 | 0.96 | 0.50 | 0.01 |
| Job crafting | 0.87 | 0.95 | 0.57 | 0.03 |
| Work engagement | 0.94 | 0.95 | 0.59 | 0.18 |

CR, composite reliability; AVE, average variance extracted; MSV, maximum shared variance.

**TABLE 2:** Descriptive results and normality indicators.

| Variables | Min | Max | Mean | Median | SD | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| Self-leadership | 17.00 | 45.00 | 34.96 | 35.00 | 5.07 | -0.52 | 1.18 |
| Empowerment leadership | 24.00 | 168.00 | 121.95 | 122.00 | 25.35 | -0.70 | 1.26 |
| Work engagement | 13.00 | 63.00 | 46.08 | 47.00 | 9.98 | -0.50 | -0.01 |
| Job crafting | 19.00 | 90.00 | 67.08 | 68.00 | 11.88 | -0.51 | 0.76 |

Min, minimum; Max, maximum; SD, standard deviation.

**TABLE 3:** Correlation matrix for the latent variables.

| Variables | SL | EL | JC | WE |
|---|---|---|---|---|
| SL | 1.00 | - | - | - |
| EL | 0.21** | 1.00 | - | - |
| JC | 0.37** | 0.35** | 1.00 | - |
| WE | 0.38** | 0.32** | 0.66** | 1.00 |

SL, self-leadership; EL, empowering leadership; JC, job crafting; WE, work engagement.
**, $p \leq 0.01$.

Table 3 indicates that self-leadership had a small statistically significant correlation with empowering leadership on the 99th percentile ($r$ = 0.210; $p \leq 0.01$). The correlation was positive, and therefore an increase in self-leadership would result in a concomitant increase in empowering leadership. Job crafting had a medium statistically significant correlation with self-leadership ($r$ = 0.368; $p \leq 0.01$) and empowering leadership ($r$ = 0.347; $p \leq 0.01$) on the 99th percentile. In instances where participants were empowered by their leaders and experienced self-leadership, the likelihood of job craft increased. Moderate positive relationships were established between work engagement and self-leadership ($r$ = 0.368; $p \leq 0.01$), as well as empowering leadership ($r$ = 0.318; $p \leq 0.01$), suggesting that participants who engage in self-leadership as well as being supported by empowering leaders are more likely to adopt job-crafting behaviour.

## Structural equation modelling

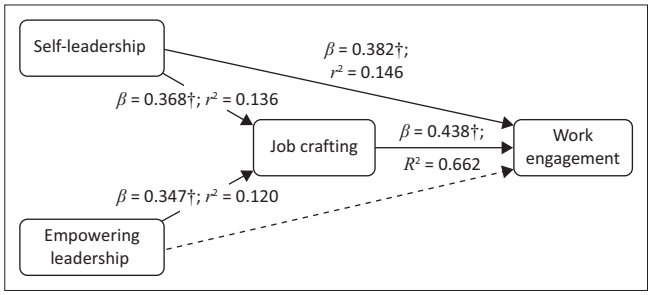
To test the research hypotheses emphasising the direct effects, viz. **H1** to **H5**, standardised path results are provided in Table 4, and significant results are graphically depicted in Figure 3.

The structural paths set out in Table 4 specified that self-leadership had a positive effect on job crafting ($\beta$ = 0.724; standard error [SE] = 0.168; $p$ = 0.000), providing support for **H1**. Essentially, 36.8% of the variance in job crafting could be attributed to self-leadership. Furthermore, self-leadership had a positive influence on work engagement ($\beta$ = 0.298; SE = 0.123; $p$ = 0.015). Particularly, 38.2% of the variance in work engagement could be attributed to self-leadership. Therefore, **H2** was accepted. Moreover, empowering leadership had a positive effect on job crafting ($\beta$ = 0.132; SE = 0.034; $p$ = 0.000). A total of 34.7% of the variance in job crafting could be attributed to empowering leadership. Consequently, **H3** was accepted. However, empowering leadership did not have a significant effect on work engagement ($\beta$ = 0.034; SE = 0.024; $p$ = 0.163), and therefore **H4** was rejected. Lastly, job crafting had a positive effect on work engagement ($\beta$ = 0.484; SE = 0.056; $p$ = 0.000), providing support for hypothesis 5.

**TABLE 4:** Path results for the structural model.

| Hypothesis | Pathways | *B* | SE | CR | *p* |
|---|---|---|---|---|---|
| H1 | Job crafting ← Self-leadership | 0.72 | 0.17 | 4.32 | 0.000* |
| H2 | Work engagement ← Self-leadership | 0.30 | 0.12 | 2.43 | 0.015* |
| H3 | Job crafting ←Empowering leadership | 0.13 | 0.03 | 3.94 | 0.000* |
| H4 | Work engagement ← Empowering leadership | 0.03 | 0.02 | 1.39 | 0.163 |
| H5 | Work engagement ← Job crafting | 0.48 | 0.06 | 8.69 | 0.000* |

SE, standard error; CR, composite reliability.
*p*, two-tailed statistical significance; *, statistically significant.




$\beta$, standardised beta coefficient; $R^2$, proportion variance explained.
†, does not include zero.

**FIGURE 3:** Significant direct path results for the structural equation modelling analysis.

## Mediation analysis

The results of the mediation analysis are reported in Table 5.

According to Table 5, job crafting mediated the association between both self-leadership and empowering leadership with work engagement. More specifically, job crafting partially mediated the nexus between self-leadership and work engagement ($\beta$ = 0.4369; 95% CI = 0.2464 to 0.6399). After controlling for job crafting, the direct effect of self-leadership on work engagement remains significant ($\beta$ = 0.3141; $p$ = 0.014*; 95% CI = 0.0647 to 0.5635). Furthermore, 58.2% of the variance in the relationship between self-leadership and work engagement could be attributed to job crafting. The three pathways were statistically significant and positive indicative of a complementary mediation model (Zhao et al., 2010). Based on these results, hypothesis 6 was accepted. Job crafting fully mediated the nexus between empowering leadership and work engagement ($\beta$ = 0.0855; 95% CI = 0.464 to 0.1325). After controlling for job crafting, the direct effect of empowering leadership on work engagement was non-significant ($\beta$ = 0.0395; $p$ = 0.1208, 95% CI = –0.0105 to 0.0895). Specifically, 68.4% of the variance in the relationship between empowering leadership and work engagement could be attributed to job crafting.

# Discussion

Results presented confirmed that self-leadership predicted job crafting. This finding confirms extant research by Liu et al. (2023) as well as Safarova and Sehitoğlu (2022), in that self-leadership has a statistically significant positive impact on job crafting. Moreover, self-leadership statistically significantly predicted work engagement. This finding is consistent with research by Unsworth and Mason (2012), who maintained that self-leadership, as personal resource, could be used by employees to increase work engagement. This research verifies study by Breevaart et al. (2016), who established a positive correlation between self-leadership and work engagement. Furthermore, the results confirmed extant research by Knotts and Houghton (2021). Previous authors reported that self-leadership statistically significantly influenced work engagement. Lastly, Schultz (2021) reported that

**TABLE 5:** Indirect paths for the model.

| Indirect paths | Estimates | SE | L 95% CI | U 95% CI |
|---|---|---|---|---|
| Self-leadership → job crafting → work engagement | 0.44 | 0.10 | 0.25 | 0.64 |
| Empowering leadership → job crafting → work engagement | 0.08 | 0.02 | 0.46 | 0.13 |

SE, standard error; L 95% CI, lower 95% confidence interval; U 95% CI, upper 95% confidence interval.

45% of the variance in work engagement could be attributed to self-leadership. Findings of this study indicated that 38.2% of the variance in work engagement could be attributed to self-leadership.

Empowering leadership statistically significantly contributed to job crafting. This finding is consistent with previous research by Audenaert et al. (2020), who also reported that empowering leadership statistically significantly contributed to job crafting. Similarly, this finding was substantiated by Tang et al. (2020), who established that empowering leadership promotes job crafting. The results presented were also in line with results by Thun and Bakker (2018), who established that empowering leadership is a statistically significant predictor of job crafting. The contention is that empowering leaders provide employees with the latitude to design their work espoused with autonomy, which could result in job crafting behaviour (Kim & Beehr, 2018). It was postulated that empowering leadership statistically significantly influences work engagement. The results presented established that empowering leadership did not have a significant effect on work engagement. This finding refuted previous research; for example, Lee et al. (2016) reported that empowering leadership increases work engagement by means of meaningfulness. Similarly, the research presented contested empirical evidence by Arshad et al. (2022), who reported that empowering leadership statistically significantly influenced work engagement in Pakistan. However, the results presented partially confirm a study by Wen et al. (2022) that revealed that empowering leadership was positively correlated with work engagement in the Chinese hospitality industry. This research found that empowering leadership was positively correlated with work engagement but did not statistically significantly predict work engagement.

Moreover, job crafting statistically significantly contributed to work engagement. This finding is consistent with extant research. Peral and Geldenhuys (2016) established a statistically significant correlation between job crafting and work engagement among secondary school teachers. De Beer et al. (2016) reported a statistically significant association between job crafting and work engagement in various sectors. Likewise, Thomas et al. (2020) expounded that job crafting enabled managers in the construction industry to proactively improve work engagement. Tims et al. (2013) concluded that job crafting correlated positively with employee self-ratings of work engagement. The research reported on largely confirms previous empirical evidence.

The association between self-leadership and work engagement can statistically significantly be mediated by job crafting. This finding is consistent with research by Lu et al. (2014), which found that job crafting is a proactive behaviour that has been confirmed as a mediator towards improving work engagement. In the same vein, Costantini and Weintraub (2022) found that self-leadership allows a higher availability of resources, enabling proactive behaviour (e.g. job crafting), which enhances work engagement. The results presented confirmed the mentioned finding by (Costantini & Weintraub, 2022).

Lastly, job crafting mediated the nexus between empowering leadership and work engagement. This finding was consistent with previous empirical evidence. For example, according to Jiang et al. (2021), job crafting allows employees to decrease high job demands, identify new job challenges, or increase job resources. Through the support of empowering leaders, employees can craft and increase resources; the increase in resources would lead to increased work engagement. Likewise, Orth and Volmer (2017) expound that job resources, viz., empowering leadership, produce job crafting behaviour and foster work engagement. The results presented partially confirm research by Jaleel and Sarmad (2023), who provided evidence of a predictive relationship between leadership and job crafting mediated by work engagement.

The theoretical implications of the research subsume empirical validation of the JD-R model, which posits that job (viz. empowering leadership) and personal resources (viz. self-leadership) result in positive organisational outcomes (viz. work engagement) through job crafting. Furthermore, the empowering leadership scale was validated for a South African sample. A practical contribution of the research was the conditions prerequisite for leadership styles to predict work engagement. For example, empowering and supportive behaviours alone do not foster work engagement. Instead, autonomy and allowance to take charge of one's own working conditions must be encouraged by empowering leadership for any significant difference to be made to work engagement. Managerial implications of the research emphasise that self-leadership should be fostered within organisations by means of training interventions and programmes to develop employees' self-management and self-regulation skills. Empowering leaders should encourage job crafting to a greater extent to allow self-directed behaviour resulting in enhanced work engagement. Awareness campaigns should be developed to promote the importance of leadership styles in fostering work engagement and, longitudinally, organisational performance.

## Limitations and future research

The following caveats should be taken into consideration when interpreting the results of the research reported on. A cross-sectional research design was utilised, which might impede establishing causality. Caution is advised when interpreting the results. It is recommended to use a longitudinal research design in the future. A non-probability sampling strategy was utilised to generate the final sample, which could have negatively influenced the external validity of the study. Furthermore, the sample was not representative of the population because of the size of the sample. Therefore, findings should be understood as trends since the findings cannot be generalised to the population. Future studies should use probability sampling consisting of a minimum of 400 participants.

## Conclusion

The empirical findings of the study contribute towards understanding job resources that influence job crafting behaviour to promote work engagement within the South African context. A practical contribution of the research underscores the conditions that are prerequisite to predict work engagement. For instance, self-leadership would predict work engagement with and without the presence of job crafting, while empowering leadership did not statistically significantly predict work engagement. This suggests that empowering and supportive behaviours alone do not encourage work engagement. Instead, autonomy and allowance to take charge of one's own working conditions must be further encouraged by empowering leadership for any significant difference to be obtained.

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

### Authors' contributions

T.H.M. was the postgraduate student, and P.J. was the supervisor of the research project.

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### Data availability

The data that supports the findings of this study are available from the corresponding author, P.J., upon reasonable request.

### Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. They do not necessarily reflect the official policy or position of any affiliated institution, funder, or agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

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