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## WORK, INDUSTRIAL & ORGANIZATIONAL PSYCHOLOGY | RESEARCH ARTICLE

# Job embeddedness profiles: Associations with supervisor relations, job satisfaction, and work engagement

Mateboho Ramaite<sup>1</sup>, S Rothmann<sup>1\*</sup> and Leoni van der Vaart<sup>1</sup>

**Abstract:** This study aimed to identify job embeddedness profiles of employees in a paper manufacturing organization in South Africa and examine the associations between these profiles and employees' relations with supervisors and their job satisfaction and work engagement. A sample of 213 participants from a paper manufacturing organization in South Africa took part in a cross-sectional survey. The Job Embeddedness Scale, the Employment Relations Scale, the Job Satisfaction Scale, and the Work Engagement Scale were administered. The results indicated four job embeddedness profiles: links-based, balanced-high, moderate links- and fit-based, and moderate sacrifice-based job embeddedness. The balanced-high job embeddedness profile (characterized by moderate embeddedness in terms of links, but high embeddedness in fit and sacrifice) was associated with the most favorable outcomes. Compared to the other three profiles, the balanced-high and moderate links- and fit-based embeddedness profiles were associated with more positive

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Mateboho Ramaite is a Human Capital Specialist. She started her career at the Department of National Treasury as a Human Resource intern and completed her honours degree in Labour Relations Management at the North-West University. She holds a Master of Arts in Labour Relations Management.

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Leoni van der Vaart completed her master's degrees in Human Resource Management and Industrial/Organizational Psychology and a joint Ph.D. in Industrial/Organizational Psychology with KU Leuven (Belgium) and the North-West University. She is an associate professor and researcher at the North-West University. She has a special interest in understanding employee/job seeker attitudes and behavior from a motivational perspective.

### PUBLIC INTEREST STATEMENT

Retaining employees is a challenge for organizations and managers. Job dissatisfaction, low work engagement, and turnover of employees are costly, create work disruptions, and destroy organizational memory and mentors. Additionally, organizations are becoming more concerned about their ability to retain key employees, which affects their competitiveness. Therefore, knowledge of how the three dimensions of job embeddedness (i.e., links, fit, and sacrifice) combine to form profiles is essential to understanding the effects of positive relations with supervisors, job satisfaction, and work engagement on staff retention.

supervisor relations. The balanced-high embeddedness profile was associated with higher job satisfaction and work engagement scores. The results showed that positive supervisor relations (as an antecedent) was associated with job embeddedness profiles, which mattered for employees' levels of job satisfaction and work engagement.

**Subjects:** Psychological Science; Psychological Methods & Statistics; Work & Organizational Psychology

**Keywords:** job embeddedness; positive relations; job satisfaction; work engagement; latent profile analysis

### 1. Introduction

Retaining employees is a challenge for organizations and managers (Allen et al., 2010; Hom et al., 2017). Job dissatisfaction, low work engagement, and turnover of employees are costly, create work disruptions, and destroy organizational memory and mentors (Hom et al., 2020, 2017). Additionally, organizations are becoming more concerned about their ability to retain key employees, which affects their competitiveness. Notably, the reasons why workers quit their jobs have been a subject of considerable research over the years (Hom et al., 2020). March and Simon (1958) regarded desirability (e.g., job satisfaction) and ease of movement in and out of an organization (e.g., alternative opportunities) as important factors that impact the decision to remain in an organization. Mobley (1977) argued that a moderate relationship exists between job satisfaction and turnover, but recommended that research focus on the withdrawal process's psychology.

Abelson (1987) distinguished between stayers, avoidable leavers, and unavoidable leavers. However, Lee and Mitchell (1994) suggested that employee turnover models were too simple. They proposed that job- or non-job-related shocks to the system can prompt deliberations about resigning from an organization, that employees might leave without considering alternatives, and that they make decisions about staying or leaving based on a fit criterion. Allen and Griffeth (2001) linked employee turnover to job performance via conflicting mechanisms of ease and desirability of movement. Moreover, Allen et al. (2003) found that positive organizational support significantly predicted employee turnover.

Maertz and Griffeth (2004) stated that even the extensive turnover models had neglected important antecedents of employee turnover (which they summarized in terms of eight motivational mechanisms) and the embeddedness of employees in an organization and community. Moreover, Mitchell, Holtom, Lee et al. (2001a), who developed the concept of job embeddedness, argued that the psychology of leaving is different from that of staying. Therefore, Hom et al. (2020) concluded that researchers were preoccupied with why employees quit and neglected why they stay, assuming the reasons why employees leave would be the opposite of those for staying.

Yao et al. (2004) define job embeddedness as "the combined forces that keep a person from leaving his or her job" (p. 159). According to Lee et al. (2014), job embeddedness refers to "the extent of an employee's 'stuckness,' or enmeshing, within a broader social system, and it results from numerous external (or contextual) forces, which are labeled links, fit, and sacrifice, in the organization and community that operate on a focal employee" (p. 201). Since staying is not considered a choice, job embeddedness represents inertia rather than an energizing force (Mitchell, Holtom, Lee et al., 2001a). Employees become embedded in their jobs and community by forming networks of connections and relationships both on and off the job (Mitchell, Holtom, Lee et al., 2001b). Employees with many connections tend to be better integrated into the organization since leaving a job requires severing or rearranging these connections. The concept is unique because it focuses on staying (rather than leaving) and highlights the role of community links, fit, and sacrifices in addition to existing explanatory constructs (Hom et al., 2020).

Previous studies on job embeddedness have focused on its influence on employees' intentions to leave (Holtom et al., 2008; L. Zhang et al., 2019), organizational citizenship behavior, performance, counterproductive work behaviors, and absenteeism (e.g., Lee et al., 2004) using a variable-centered approach. Recently, embeddedness theorists have advocated person-centered techniques over variable-centered techniques to investigate embeddedness mindsets and withdrawal states (Hom et al., 2020, p. 122). Because embedding forces may have additive and compensatory effects, a person-centered approach is vital to understanding different types of job embeddedness (Hom et al., 2020; Li et al., 2016). Moreover, it is essential to study the factors associated with job embeddedness (I. D. Zhang et al., 2021).

The current study adopted a person-centered approach to job embeddedness with two aims. First, the study aimed to identify job embeddedness profiles based on different combinations of the three embeddedness dimensions. These dimensions might have additive and compensatory effects, which can be captured by latent profile analysis. Second, the study aimed to examine the associations between job embeddedness profiles and positive supervisor relations as an antecedent of job embeddedness and two possible consequences, job satisfaction, and work engagement.

## **2. Job embeddedness: A person-centered perspective**

The conventional model of voluntary turnover suggests that individuals become dissatisfied with their employment, seek other jobs, evaluate their options with their present job, and leave if any of these alternatives are judged superior to the current condition (Holtom & O'Neill, 2004). In contrast, job embeddedness captures how and why people feel "stuck" in their jobs (Yao et al., 2004). Job embeddedness focuses on the process of retention or why people remain in their present job, suggesting that situational aspects of a person's life space influence their decision to stay in a job (Mitchell et al., 2001b) because of three influences: links, fit, and sacrifice in organizations and communities. Links refer to the formal or informal connections to fellow employees. Fit entails that employees' goals and plans connect to the organization's culture, job demands, and views of their work environment. Finally, sacrifice is the perceived physical and psychological costs when leaving a job.

*Variable-centered* and *person-centered* approaches can be utilized to study job embeddedness. The variable-centered approach, which has been used in most previous studies of job embeddedness, focuses on relations among variables as they occur, on average, in a sample (Caesens et al., 2020). The variable-centered approach does not consider the possibility that relations among variables can differ among different subpopulations in a sample. The existence of small subpopulations with extreme scores can impact variable-centered results. Lee et al. (2014) recommend that person-centered approaches be used to examine latent profiles (i.e., patterns of responses and associations across the dimensions) of job embeddedness. Person-centered techniques recognize that variables can combine differently for some individuals than others. Therefore, the profiles of subgroups of individuals within a given population exhibit patterns of distinct variables (Meyer & Morin, 2016). Caesens et al. (2020) hold that person-centered analyses can be used to "explore the underpinnings of unexpected or inconsistent variable-centered associations" (p. 691).

The following question arises: Which combinations of job embeddedness dimensions (i.e., latent profiles) will be associated with the most positive outcomes for employees and their organization? Little is known about the patterns that characterize the combination of job embeddedness dimensions and their associations with employees' relations with their supervisors, job satisfaction, and work engagement. According to the multifocal embeddedness model (Kiazad et al., 2015), different foci have different antecedents and consequences (Hom et al., 2020). This study focuses on two embedding foci: the job and community (Mitchell et al., 2001a).

## **3. The multifocal model of job embeddedness: Positive relations as an antecedent**

Based on the conservation of resources (COR) theory tenet that resource loss is distressing, the multifocal model assumes that individuals stay in order to maintain resources with intrinsic value

(sacrifices) or instrumental value (fits and links; Hobfoll, 2001). Lee et al. (2004) argued that employees are likely to stay and perform well when they fit, have links, and are willing to make sacrifices. Hobfoll (2001) argued that resources could reside in individuals or can be obtained from their social contexts.

This study focused on positive employment relations (between employees and supervisors) as a social contextual variable that supplies resources (Hobfoll, 2001) that embed individuals in specific foci. Positive employment relations refer to trust, respect, social integration, equity and equality, support, and constructive conflict management in the workplace (Smith, 2016). Such relations might affect the two embeddedness foci via skill-enhancing, opportunity-enhancing, and motivation-enhancing mechanisms (Kiazad et al., 2014).

A fundamental building block of employment is the co-dependent relationship between worker and employer (Overell et al., 2010). As organizations become flat and utilize teams to achieve tasks, work becomes co-dependent, and relations are imperative for enhancing employees' skills, opportunities, and motivation (Colbert et al., 2016). Social exchange theory (SET; Blau, 1964) emphasizes social exchange facets, which are intangible resources with symbolic benefits, such as trust, status, respect, knowledge, and friendship, rather than physical exchanges, such as money (Chang et al., 2015; Cropanzano & Mitchell, 2005). In addition, the norm of reciprocity (Gouldner, 1960) suggests that supportive supervision may result in affective attachment and a feeling of obligation to an organization. These factors may affect fit as a job embeddedness dimension. According to Purba et al. (2016), positive relations (characterized by trust, consistency, fairness, inclusiveness, care, support, communication, and connection) lead to a psychologically safe work environment, which contributes to work-role fit and employee engagement (Diedericks & Rothmann, 2013; Kahn & Heaphy, 2014; Mitchell et al., 2001a).

Purba et al. (2016) found that elements of social relationships with supervisors were critical for developing job embeddedness, especially in collective cultures. Specifically, trust in the supervisor results in high job embeddedness. Trust is associated with perceptions of *fit* and attachment to the organization, which stabilize during early employment. The *links* in the organization gradually develop over time because deep and authentic relationships will not exist the moment employees join an organization (Holtom et al., 2013). Strong links support job embeddedness and make it difficult for employees to resign, mainly because they will put valued relationships at risk if they decide to resign.

#### 4. The multifocal model of job embeddedness: Consequences

Studies (e.g., I. D. Zhang et al., 2021; Huning et al., 2020) have shown that job embeddedness is associated with desirable individual and organizational consequences. Employees embedded in their jobs are inclined to remain in their organizations (Hom et al., 2020; Yao et al., 2004), but are they satisfied with and engaged in their work? (Huning et al., 2020; Shibiti, 2019). *Job satisfaction* refers to individuals' attitudes towards their job, resulting from evaluating its facets (Moller & Rothmann, 2019). Hanaysha and Tahir (2016) showed that employee empowerment (an element of positive employment relations) leads to job satisfaction. *Work engagement* is "a positive fulfilling work-related state of mind characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). These qualities mean that engaged employees have a high drive while working, are highly involved in their work, see it as noteworthy and important, and are focused on and happily absorbed (Bakker & Oerlemans, 2011).

Highly embedded workers create social connections to organizations, and they have a strong enthusiasm to engage in constructive work behaviors (Jia et al., 2020). Employees who experience a reduced degree of embeddedness in their jobs may show hostility in their working relationships and have diminutive affection for and connection to their present jobs (Halbesleben & Wheeler, 2008). Hence, they are less likely to put effort into their employment and are less engaged (Jia et al., 2020). Less embedded employees tend to spend most of their time planning and pursuing

**Table 1. Characteristics of participants (n = 213)**

Item	Frequency	Percentage
Gender	134	63.2
	74	39.4
	4	1.9
Race	28	13.2
	178	84.4
	1	.5
	4	1.9
Language group	3	1.4
	3	1.4
	20	9.4
	34	16.0
	35	16.5
	63	29.7
	10	4.7
	17	8.0
	9	4.2
	4	1.9
	10	4.7
	4	1.9
Function	129	60.8
	14	6.6
	19	9.0
	16	7.5
	23	10.8
	7	3.3
	4	1.9
Employment type	46	21.7
	141	66.5
	23	10.8
	2	9

potential job alternatives, thus making them fail to focus on their work, causing disengagement (Harunavamwe et al., 2020).

L. Zhang et al. (2019), drawing on insights from COR theory (Hobfoll, 1989, 2001), approach job embeddedness from a resource perspective and postulate that job embeddedness reflects one's resource status. Given the number of resources accrued (L. Zhang et al., 2019), employees feel compelled to show positive attitudes towards the organization. For this reason, job embeddedness is associated positively with employee job satisfaction and work engagement (Ampofo, 2020).

## 5. Method

### 5.1. Research participants

Research participants for this specific study were employees of a paper manufacturing organization in South Africa. Three hundred questionnaires were disseminated, of which 213 (i.e.,

a 71% response rate) were returned over four weeks. The characteristics of the participants are reported in [Table 1](#).

[Table 1](#) shows participants in numbers and percentages. Most of the participants were black African (88.4%) males (63%) who were permanently employed (66.5%). Setswana (29.75%) was the most representative language category, followed by isiZulu (16.5%) and Sepedi (16.0%). [Table 1](#) also indicates that most participants worked in production (60.8%), followed by warehouse workers (10.8%).

## 5.2. Measuring instruments

In this study, a biographical questionnaire, the Job Embeddedness Scale (JES; Mitchell et al., 2001a), the Employment Relationship Scale (ERS; Smith, 2016), the Job Satisfaction Scale (JSS; Saks, 2006), and the Work Engagement Scale (WES; Diedericks & Rothmann, 2013) were used.

The *Job Embeddedness Scale* (JES; Mitchell et al., 2001a) is a self-report instrument that includes three scales, namely, links (7 items; e.g., “My coworkers are similar to me”), fit (5 items; e.g., “My job utilizes my skills and talents well”), and sacrifice (6 items; e.g., “I would sacrifice a lot if I left this job”). Ramaite (2020) tested the factor structure of the JES and removed items to ensure an acceptable fit of the measurement model: links (2 items), fit (2 items), and sacrifice (3 items). The responses are scored on a Likert scale, with varying degrees of intensity, from 1 (strongly disagree) to 6 (strongly agree). A higher response aggregate indicates higher levels of job embeddedness. Mitchell et al. (2001a) reported acceptable internal consistency reliabilities (Cronbach’s alpha) for links (six items) = .50-.77, fit (seven items) = .75-.86, and sacrifice (10 items) = .59-.82. Other previous research also supported the validity of the JES Halbesleben & Wheeler, 2008).

The *Employment Relations Scale* (ERS; Smith, 2016) was used to measure positive relations with supervisors. The scale consists of 37 items and measures trust (nine items, e.g., “My supervisor believes in my capabilities”), equity and equality (four items, e.g., “My supervisor acts in fairness with regard to all activities in my department”), respect (four items, e.g., “My supervisor shows kindness and compassion towards me”), support (eight items, e.g., “My supervisor supports me when I need him/her”), conflict management (five items, e.g., “My supervisor encourages us to speak up when we disagree with a decision”), and communication (seven items, e.g., “My supervisor communicates well and truthfully”). These items are measured on a seven-point Likert scale, ranging from 0 (disagree) to 7 (strongly agree). Smith (2016) found support for the construct validity of the ERS. The omega coefficient of the ERS was .90 in this study, which confirms the scale’s internal consistency.

The *Job Satisfaction Scale* (JSS; Saks, 2006) was used to measure job satisfaction. Three items measure how satisfied employees feel with their jobs (e.g., “I feel fairly satisfied with my present job” and “I find real enjoyment in my work”). Response options range from 1 (totally disagree) to 5 (totally agree). Research by Diedericks and Rothmann (2013) showed evidence for the construct and concurrent validity of the JSS. Work-role fit and supervisor relations predicted job satisfaction (as measured by the JSS). Diedericks and Rothmann (2013) found an acceptable Cronbach’s alpha coefficient for the JSS ( $\alpha = .71$ ).

The *Work Engagement Scale* (WES; Diedericks & Rothmann, 2013) was used to measure the engagement levels of individuals. The WES consists of nine items which measure cognitive engagement (e.g., “I am very absorbed in my work”, three items), emotional engagement (e.g., “I am passionate about my job”, three items), and physical engagement (e.g., “I feel energized when I work”, three items). Participants rated the items of the WES on a Likert scale, ranging from 1 (never or almost never) to 7 (always or almost always). Research by Diedericks and Rothmann (2013) confirmed the construct validity of the WES. Work-role fit and good supervisor relations were strongly associated with work engagement, while work engagement predicted positive psychological functioning. Diedericks and Rothmann (2013) reported an acceptable Cronbach’s alpha coefficient of .72 for the WES.

### 5.3. Research procedure and ethics considerations

A letter of permission to conduct the research was obtained from the director of the paper manufacturing organization where the study was carried out. The researcher applied for ethics clearance from the Economic and Management Sciences Research Ethics Committee at the North-West University (NWU-00116-19-A4). The participants received a hard copy of the questionnaires to complete. Participation in the study was voluntary. Participants could withdraw at any time during the research project without prejudice. The responses from the questionnaire were captured on an Excel spreadsheet as raw data and converted into an SPSS file for data analysis.

### 5.4. Statistical analysis

Mplus 8.4 (Muthén & Muthén, 1998–2020) was used to test the measurement model of job embeddedness using confirmatory factor analysis (CFA). The maximum likelihood robust estimator (MLR) was used. Several goodness-of-fit measures were utilized to assess model fit. The statistics reported are the chi-square ( $\chi^2$ ), indicating absolute fit of the model, and the standardized root mean residual (SRMR), and root mean square error of approximation (RMSEA). Values lower than .08 indicated close fit between the model and the data. Tucker-Lewis index (TLI) and comparative fit index (CFI) values higher than .90 were regarded as an acceptable fit of the model to the data (Hair et al., 2010).

Common method variance (CMV) of the measures was not tested by including a marker variable (Lindell & Whitney, 2001), but we used Harman's single factor test to determine the CMV. Even though Harman's test has been criticized (see, Cooper et al., 2020), it is the bare minimum to detect CMV. Therefore, exploratory factor analysis was conducted on the items of a) the JES, and b) the ERS, JSS, and WES. We did not include a suitable marker variable (as recommended by Lindell & Whitney, 2001) to check for the possibility of common method variance (CMV), but we used Harman's single factor test. Although Harman's test has been criticized (see, Cooper et al., 2020), it is regarded as the minimum to detect CMV. Therefore, exploratory factor analysis was conducted on the items of all the measures and used the unrotated factor solution to determine if a single dominant factor accounted for the majority of variance (> 50%). The results showed that a single factor explained only 9.72% of the total variance in job embeddedness and 14.44% of the total variance in positive employment relations, job satisfaction, and work engagement. As a result, we did not regard CMV as a threat to the study's validity.

Latent profile analysis (LPA) in Mplus 8.4 (Muthén & Muthén, 1998–2020) was utilized to determine the embeddedness profiles that fit the data (Geiser, 2013; Wang & Wang, 2020). Most decisions regarding the evaluation of the models in LPA make use of the Bayesian information criterion (BIC), sample-adjusted BIC (ABIC), and Akaike information criterion (AIC; Marsh et al., 2009). The Vuong-Lo-Mendell-Rubin likelihood ratio test (LMR LR) (Lo et al., 2001), the adjusted LMR LR (ALMR) test, and the bootstrapped likelihood ratio test (BLRT; Nylund et al., 2007; Wang & Wang, 2020) were also employed to decide on the number of profiles. Simulation studies indicated that the BIC and BLRT tests performed best (Nylund et al., 2007). When using LPA, it is crucial also to consider the average latent profile assignment probabilities for individuals assigned to each profile, as these probabilities are an indicator of the reliability of class classification (Geiser, 2013). Values on the main diagonal should be larger than .80 for a good solution. In this study, we also examined entropy as an indication of capacity to define class membership (Wang & Wang, 2020).

Descriptive statistics were analyzed using SPSS 26.0 (IBM Corp, 2020). The standards for effect sizes of correlations published by Cohen (1998) are .10 (small effect), .30 (medium effect), and .50 (large effect). A value of 95% ( $p \leq .05$ ) was set to indicate the confidence level for statistical significance. Omega squared ( $\omega$ ) was used to assess scale reliability. It is not ideal to use Cronbach's alpha to determine the internal consistency of scales if the item loadings are different (Hayes & Coutts, 2020). Regarding the reliability of the measuring instruments, omega coefficients of  $\omega > .70$  were regarded as acceptable (Nunnally & Bernstein, 1994).

**Table 2. Standardized regression coefficients and standard errors of the three factors of the JES**

Item	Description	$\beta$	SE
<b>Links</b>			
1	I really love the place where I live.	.82	.04
2	The weather where I live is suitable for me.	.78	.05
3	This community is a good match for me.	.90	.03
5	The area where I live offers the leisure activities that I like.	.74	.05
6	I like the members of my work group.	.62	.08
15	My family roots are in the community I live in.	.54	.06
20	My neighborhood is safe.	.51	.07
<b>Fit</b>			
8	My job utilizes my skills and talents well.	.83	.03
9	I feel as if I am a good match for this company.	.92	.02
11	I fit with the company's culture.	.76	.04
12	I like the authority and responsibility I have at this company.	.63	.05
13	I can reach my professional goals working for this organization.	.81	.03
<b>Sacrifice</b>			
21	I have a lot of freedom on this job to decide how to pursue goals.	.74	.04
24	I would sacrifice a lot if I left this job.	.58	.05
25	My promotional opportunities are excellent here.	.88	.02
26	I am well compensated for my level of performance.	.81	.04
27	The healthcare benefits provided by this organization are excellent.	.61	.05
29	The prospects for continuing employment with this company are excellent.	.84	.03

**Table 3. Descriptive statistics, reliabilities, and Pearson correlations**

	$\omega$	Mean	SD	1	2	3	4	5
(1) JE: links	.85	5.19	0.88	-	-	-	-	-
(2) JE: fit	.90	4.31	1.47	.38**	-	-	-	-
(3) JE: sacrifice	.88	2.68	1.39	.07	.60**	-	-	-
(4) Positive relations	.90	4.82	1.15	.53**	.54**	.21**	-	-
(5) Job satisfaction	.89	3.58	1.18	.40**	.74**	.54**	.62**	-
(6) Work engagement	.87	5.31	1.35	.37**	.75**	.56**	.48**	.74**

Note: The descriptive statistics and correlations were computed based on scale scores

\*\*  $p < .01$

## 6. Results

### 6.1. Confirmatory factor analysis

Confirmatory factor analysis (CFA) was used to test the fit of the hypothesized measurement model of job embeddedness. The measurement model consisted of three latent factors: links (seven observed variables), fit (five observed variables), and sacrifice (six observed variables). The following fit statistics were obtained:  $\chi^2 = 272.42$ ,  $df = 130$ ,  $p < .01$ , scaling correction factor = 1.10; RMSEA = .07 [.06, .08],  $p < .00$ ; CFI = .92; TLI = .91; SRMR = .08. The model showed acceptable fit. The standardized regression coefficients and standard errors of the items that were retained are displayed in [Table 2](#).

### 6.2. Descriptive statistics, reliabilities, and correlations

The descriptive statistics, reliabilities, and Pearson correlations of the variables are reported in [Table 3](#).

[Table 3](#) shows that acceptable reliability coefficients were obtained for all the scales. Concerning job embeddedness, participants scored the highest on links and the lowest on sacrifice. The scores for positive relations, job satisfaction, and work engagement were above average. [Table 3](#) reflects statistical and practical correlations between fit, on the one hand, and positive relations, job satisfaction, and work engagement (all large effects), on the other hand. Links correlated statistically significantly with positive relations (large effect) and job satisfaction and work engagement (both medium effects). Sacrifice correlated statistically significantly with job satisfaction and work engagement (both medium effects).

### 6.3. Latent profile analysis

A latent profile analysis (LPA) was conducted based on the factor scores of three dimensions of job embeddedness (i.e., links, fit, and sacrifice) exported from the measurement model. The fit indices are reported in [Table 4](#).

The AIC, BIC, and ABIC values kept on improving, and the  $p$ -values of the BLRT tests also remained significant. Because the information criteria failed to reach a minimum, a graphical representation of the criteria was used to determine the number of classes (Howard et al., 2016; Morin & Marsh, 2015). The plot ([Figure 1](#)) shows that most values of these criteria decreased until they reached a plateau around four profiles.

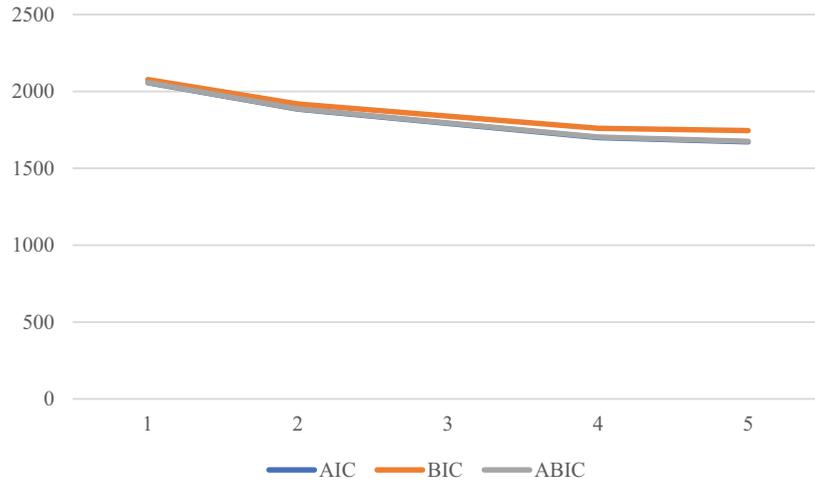
**Table 4. Comparison of different latent profile analysis models**

Profile	Log likelihood	#fp	Scaling	Akaike (AIC)	Bayesian (BIC)	Sample-size adjusted BIC	LMR LR test p-value	ALMR LR test p-value	BLRT p-value	Entropy	Smallest class percentage
1	-1022.35	6	1.09	2056.70	2076.83	2057.83	n/a	n/a	n/a	-	-
2	-932.21	10	1.16	1884.43	1918.00	1886.31	.00**	.00**	.00**	.88	32.04%
3	-882.06	14	1.17	1792.11	1839.10	1794.74	.00**	.00**	.00**	.85	26.90%
4	-831.86	18	1.22	1699.73	1760.15	1703.11	.02	.02	.00**	.90	8.50%
5	-813.75	22	1.25	1671.50	1745.35	1675.64	.23	.24	.00**	.95	3.00%

Note: #fp, number of free parameters; AIC, Akaike information criterion; BIC, Bayesian information criterion; ABIC, adjusted Bayesian information criterion; LMR LR, Lo-Mendell-Rubin test; ALMR LR, adjusted Lo-Mendell-Rubin test; BLRT, bootstrapped likelihood ratio test.

\*\*  $p < .01$

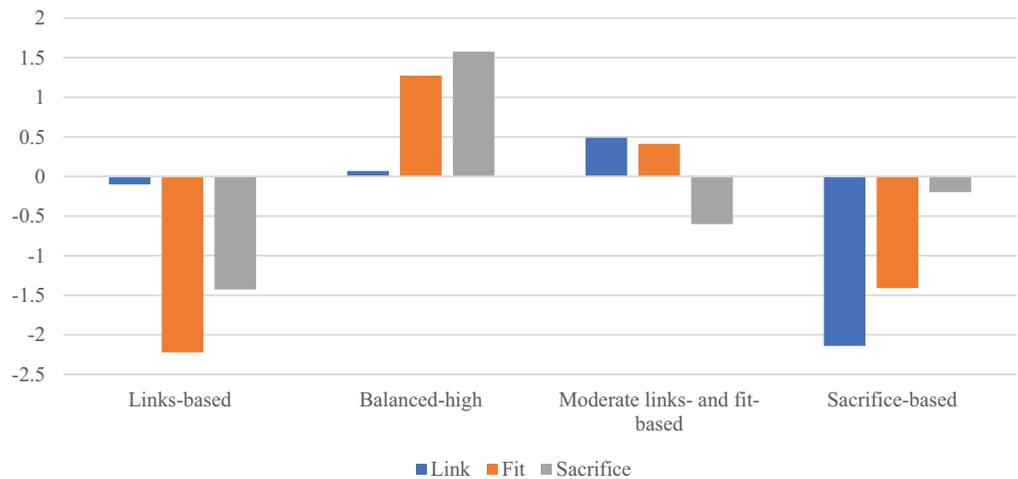
**Figure 1. Elbow plot for the information criteria.**



An inspection of the profile plots revealed that the four-profile solution added a class that was quantitatively and qualitatively different from the other classes and added theoretical value beyond the three-profile solution. However, adding a fifth profile resulted in a reduction in the number of individuals in Profile 4 due to the addition of a class that was quantitatively only slightly different from the fourth profile. The five-profile solution also yielded profiles that contained only seven and 11 participants, respectively. This was far below the acceptable value of 25 participants per profile (Lubke & Neale, 2006). Consequently, the four-profile solution was the best solution. The quality of the latent profile relationship was investigated using entropy values. The four-profile solution had an entropy value of .90, indicating a good classification (Wang & Wang, 2020). The four latent profiles are illustrated in Figure 2.

The characteristics of the four different job embeddedness profiles are discussed next. a) *Profile 1: Links-based job embeddedness* (20.90%). Individuals in Profile 1 obtained average scores on links and low scores on fit and sacrifice. Profile 1 individuals were somewhat embedded in the

**Figure 2. Four latent profiles based on the three dimensions of the JES.**



organization due to links, i.e., the connections they had between the organization (coworker friendships, years of service) and the communities (church, membership of community organizations) in which they found themselves. b) *Profile 2: Balanced-high job embeddedness* (34%). Individuals in Profile 2 scored high on fit and sacrifice and average on links. Profile 2 individuals were well embedded because they had values similar to the organization's values. Their sacrifices (e.g., safety, length of service, and distance to work) contributed to their embeddedness. c) *Profile 3: Moderate links- and fit-based job embeddedness* (36.60%). Individuals in Profile 3 obtained above-average scores on links and fit, but below-average scores on sacrifice. Profile 3 individuals scored higher than the other profiles in terms of links (i.e., because they liked the place where they lived and their workgroup, match with the community, leisure activities in the area, and their family roots). An average score on fit indicated that they fit into the organization and that their talents were being utilized. d) *Profile 4: Sacrifice-based job embeddedness* (8.50%). Individuals in Profile 4 scored the highest on sacrifice as a component of job embeddedness, although the score was still below average. Profile 4 individuals scored low on links and fit as bases for job embeddedness. However, the job embeddedness of individuals in Profile 4 was based on sacrifices (e.g., freedom to decide how to pursue goals, promotional opportunities, compensation, healthcare benefits, and prospects for continuing employment with the organization).

Table 5 shows the equality tests of means across profiles using posterior probability-based multiple imputations with three degrees of freedom for the overall test and one degree of freedom for the pairwise tests.

Table 5 shows that statistically significant differences existed between positive relations, job satisfaction, and work engagement of different job embeddedness profiles. Table 5 shows that the first and fourth profiles differed significantly from the second and third profiles concerning positive relations. Individuals with higher scores on more than one dimension of job embeddedness (i.e., balanced-high and moderate links- and fit-based profiles) also experienced equal but higher levels of positive relations compared to their counterparts who only scored high on one dimension of job embeddedness. Concerning *job satisfaction* and *work engagement*, Table 5 shows that statistically significant differences existed between most of the profiles, except for Profiles 1 and 4. The links-based and the sacrifice-based job embeddedness profiles reported the same levels of job satisfaction and work engagement.

The patterns of scores of job embeddedness on positive relations, job satisfaction, and work engagement are illustrated in Figure 3.

## 7. Discussion

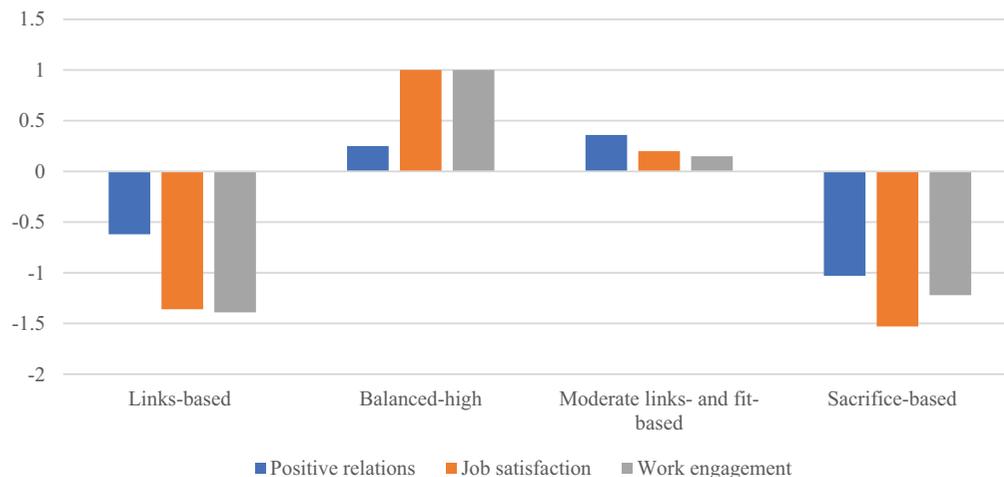
This study aimed to identify job embeddedness profiles based on different combinations of three of its dimensions and to examine the associations between these profiles and positive relationships with supervisors, job satisfaction, and work engagement. Latent profile analysis resulted in four job embeddedness profiles: links-based job embeddedness, balanced-high job embeddedness, moderate links- and fit-based embeddedness, and sacrifice-based embeddedness. More positive

**Table 5. Mean differences for the job embeddedness profiles (correlates)**

	Links-based	Balanced-high	Moderate links- and fit-based	Sacrifice-based
Positive relations	-0.62 <sup>b</sup>	0.25 <sup>a</sup>	0.36 <sup>a</sup>	-1.03 <sup>b</sup>
Job satisfaction	-1.36 <sup>c</sup>	1.00 <sup>a</sup>	0.20 <sup>b</sup>	-1.53 <sup>c</sup>
Work engagement	-1.39 <sup>c</sup>	1.00 <sup>a</sup>	0.15 <sup>b</sup>	-1.22 <sup>c</sup>

Note: Within rows, means with different letters are significantly different from one another.

**Figure 3. Job embeddedness latent profiles and correlates.**



supervisor relations were found for two of the profiles, while less positive relations were found in the two other profiles. Job satisfaction and work engagement were the highest in the balanced-high job embeddedness profile.

Employees in the links-based profile represented 20.9% of the sample. Employees' job embeddedness in this profile was mainly based on their connections with others in their organization and community. Individuals in the balanced-high job embeddedness profile represented 34% of the total population. Fit and sacrifice were strong dimensions in this profile, while links were relevant but somewhat salient. Employees in the moderate links- and fit-based profile represented 36.6% of the total population. The embeddedness of individuals in this profile was based on links and fit, but much less on sacrifice. Employees in the sacrifice-based profile represented 8.5% of the total number of employees in this sample. Sacrifice was the highest dimension of job embeddedness in this profile, and the fit- and links-based dimensions were less strong.

The results should be interpreted with caution given the average to high scores on links embeddedness in all the profiles. Therefore, the participants endorsed the "agree" or "strongly agree" on links more than they did on the other two embeddedness dimensions. Links refer to the formal or informal connections to fellow employees. A construct's assessment might be influenced by cultural variables such as participants' worldview and acculturation level (Cheung et al., 2011). Therefore, the scores on links in this study might be affected by the importance of socio-relational aspects in the South African context (Valchev et al., 2011). However, the effect of the specific organizational contexts cannot be ruled out.

The results showed that the links-based and sacrifice-based profiles were associated with less positive supervisor relations, job satisfaction, and work engagement. Employees in the links-based profile experienced significantly lower scores on positive relations, job satisfaction, and work engagement than all other profiles, except for the sacrifice-based profile. In addition, the results indicated that employees who only experienced one dimension of job embeddedness (with an average score) were less likely to experience positive relations with their supervisors and were less likely to be satisfied and engaged. In contrast, employees with moderate to high scores on job embeddedness were more likely to experience positive relations with their supervisors, and they were more likely to be satisfied and engaged in their work. However, the balanced-high job embeddedness profile showed higher job satisfaction and work engagement levels than the other three. These results align with COR theory (Hobfoll, 2011), which suggests that maintaining

resources underlies job embeddedness and that links, fit, and sacrifice matter for staff well-being and retention (L. Zhang et al., 2019).

According to SET, the employment relationship represents an exchange between employees and their supervisors, in which each party feels ethically grateful to return to the other for benefits received (Blau, 1964). Highly embedded individuals may stay because it matters for their links, fit, and sacrifices that result from positive social exchanges with their supervisors (Blau, 1964) and the reciprocity they experience in such relationships. Employees who recognize an elevated level of organizational and supervisory support will consider it necessary to return this support with behaviors that support the organization (Huning et al., 2020). A good relationship with coworkers and supervisors is a force that ties employees to an organization (Martdianty et al., 2019). According to SET (Blau, 1964), employees who have trusting and worthy relationships with their supervisors and coworkers are embedded in the organization's social network (Karatepe, 2012).

Previous research has connected job embeddedness to several non-turnover outcomes (Ampofo, 2020). Lee et al. (2004) argue that individuals become embedded in their jobs due to several work reasons: perks, social ties with coworkers, and access to development opportunities. Research has shown the significance of work resources, such as incentives, promotion, and social support, for employee job satisfaction (Karatepe, 2012; Koo et al., 2019). Employees who are highly embedded in their jobs (i.e., who report high fit and sacrifice, and moderate links) hold accumulated work resources, which they feel they owe to the organization, and therefore, they believe in repaying the organization through positive attitudinal outcomes, such as job satisfaction and work engagement (Ampofo, 2020; L. Zhang et al., 2019). Embedded individuals may feel that the kindness and care shown by the organization can be reciprocated by them displaying the affection to stay in the organization (Ampofo, 2020). Based on SET (Blau, 1964), when employees recognize that the organization has provided them with resources to increase their level of embeddedness in it, they are likely to produce positive attitudinal outcomes (such as job satisfaction and work engagement) in return.

These findings confirmed the importance of positive supervisor relations for job embeddedness. Positive relations with supervisors matter for employees' job embeddedness, (fit, sacrifice, and links). Moreover, the results showed that job embeddedness, particularly fit and sacrifice, and links (to an average extent) mattered for job satisfaction and work engagement (I. D. Zhang et al., 2021).

Supervisors need to build a climate that fosters positive employee relations. Job embeddedness is associated with positive outcomes such as job satisfaction and work engagement. In line with the findings of Karatepe (2012), employees who experience support from their supervisors are more embedded in their jobs. Therefore, supervisors need to give their subordinates adequate emotional, financial, and social support. In addition, supervisors should maintain trusting relationships with employees. Supervisors who provide workers with positive and constant interactions, transparent and open communication, and clarity on decisions, contribute to job embeddedness. Clear and transparent communication from supervisors to employees will assist in maintaining the relevant trust relationship between the parties and create a fair and trusting working environment. When there is consistency in supervisors' communication, interactions, and actions, employees' interests in the organization will be secured, which will result in them being satisfied and engaged.

This study makes the following contributions to the current literature. Firstly, it provides insight into how different dimensions of job embeddedness combine to form profiles. Secondly, this study contributes to the literature on the association of positive relations with supervisors with different latent profiles of job embeddedness. Thirdly, it provides insights into the associations between job embeddedness profiles, job satisfaction, and work engagement.

## 8. Limitations of the study

This study had various limitations. Firstly, self-report data were gathered regarding job embeddedness, positive relations with supervisors, job satisfaction, and work engagement. Common-method bias threatens the validity of the findings. The risk is that factors other than the intended constructs might have caused the associations among the variables (Spector, 2019). Future studies should consider different data sources or separate the variables in time. Secondly, the sample size of this study was relatively small, which made it difficult to verify the factor structures and latent profiles in a second sample. Also, it was impossible to use random assignment of participants of the specific organization in the study (I. D. Zhang et al., 2021). Future studies should employ larger and more representative samples. Thirdly, this study was conducted in a specific organization, and the results cannot be generalized. Fourthly, the mean score on links was average to high in this study. It is essential to study the possible effects of the cultural context in South Africa on the responses to the questionnaire items. Lastly, this study included only two foci of job embeddedness. Future studies should focus on other foci (e.g., families and occupations).

## 9. Conclusions

By applying a person-centered approach to job embeddedness, this study confirmed that different latent profiles exist. Four job embeddedness profiles were revealed: links-based job embeddedness, balanced-high job embeddedness, moderate links- and fit-based job embeddedness, and sacrifice-based job embeddedness. The balanced-high job embeddedness profile was associated with more favorable outcomes than the other profiles, indicating the value of considering job embeddedness in different foci. In addition, positive relations with supervisors were associated with job embeddedness, which had favorable consequences for employees' job satisfaction and work engagement.

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### Data availability statement

The data is available at Mendeley Data, V1, <https://data.mendeley.com/datasets/8ks2vgcmv3/1>

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