



Conceptualising and measuring employee engagement as a role-related, multi-level construct



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Orientation: Based on different roles that managers occupy at different levels in organisations the question often arises: 'how will these multiple roles and levels affect their engagement?'

Research purpose: This study aimed to establish if employee engagement is a multi-level construct based on the multiple roles that individuals occupy in organisations.

Motivation for the study: Several engaging management practices on different organisational levels were identified that either engage or disengage employees that are not being considered in the current mono-level, mono-role engagement models.

Research design, approach and method: This quantitative study is based on a cross-sectional survey conducted amongst 1750 individuals with managerial responsibilities in three different organisations. About 610 participants attempted to complete the survey, but only 425 fully completed responses could be used for final statistical analysis.

Main findings: Four different structural models were confirmed in the study. The first three confirmed different pull and push factors for individual, team and management engagement. The fourth model established that all three engagement constructs contribute to an engaging climate in organisations without any significant collinearity between the three engagement constructs.

Practical/managerial implications: The empirical evidence confirms unique sets of pull and push factors on individual, team and managerial levels. Human resource practitioners should, therefore, take note of which factors promote employee engagement on each level.

Contribution/value-add: The study confirms that employee engagement can be viewed as a multi-role, multi-level construct where significant spillover and/or crossover effects between different levels and roles are possible.

Keywords: employee motivation; employee engagement; individual engagement; team engagement; management engagement; engaging climate.

Introduction

Employee engagement remains a topical research and management issue (Bakker 2009; Macey & Schneider 2008); consequently, much research has been conducted thus far on factors that promote engagement in the workplace (Bakker & Demerouti 2007, 2008; Bakker et al. 2008; Demerouti et al. 2001; Schaufeli & Bakker 2004). In this respect, Demerouti et al.'s (2001) job demands-resources (JD-R) model is perhaps the most significant attempt to date to create a framework or a taxonomy for categorising the different demand (push) and resource (pull) factors (cf. Schaufeli & Taris [2014] for a list) that contribute towards work engagement on an individual level into a coherent model. On the other hand, Joubert (2010) identified no less than 57 management practices based on a management value chain model that can be grouped on different organisational levels (Joubert 2010; Joubert & Roodt 2011). These management practices result in engaging or disengaging work behaviours of individuals who occupy various roles on different organisational levels. These push and pull factors go beyond the demands and resources model of individual work engagement as proposed by Demerouti et al. (2001) and the question that arises is as follows: should employee engagement not be conceptualised as a multi-level construct?

Role theory and role identity theory suggest that individuals are tied mechanically to the different roles that they perform in an organisation (Burke & Stets 2009; Stets & Burke 2000). Only a few studies were found to have explained employee engagement on another organisational level (i.e. team level – Torrente et al. 2012a, 2012b), but no other studies could be found that simultaneously investigated employee engagement of the same individuals in different roles on different

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organisational levels. The main research question of the study can therefore be formulated as: 'which push and pull factors contribute towards individuals' engagement in different roles that they simultaneously hold on individual, team and/or management levels?'

The contribution of this study lies in the fact that it will identify push and pull factors that promote individuals' engagement in the different roles that they simultaneously hold on individual, team and/or management levels. The results may be of significance for both human resource (HR) practitioners and researchers. It is argued that the contexts in which these roles are performed have each unique push and pull factors that may affect employee engagement on these particular levels. The study will also demonstrate how individuals' engagement on these three levels contributes towards establishing an engaging climate in organisations. Consequently, the study conducted in three distinctly different types of organisations and industries will focus on individuals who hold multiple roles on different levels as the unit of analysis. More specifically, the following research objectives (ROs) were formulated:

- RO1 – Selected push and pull factors promote employee engagement on an individual level.
- RO2 – Selected push and pull factors promote employee engagement on a team level.
- RO3 – Selected push and pull factors promote employee engagement on a management level.
- RO4 – How employee engagement on these mentioned levels is mutually related as well as related to an engaging climate?

This article has four parts. Firstly, a theoretical orientation and a literature review will identify the most important push and pull factors that promote individuals' engagement on three different organisational levels. Secondly, the research design and method will be presented with a brief summary of the measuring instruments used. Thirdly, the results of the study are presented and, finally, the article is concluded by a discussion of these research findings. The theoretical orientation and literature review will follow next.

Theoretical orientation and literature review

Theoretical orientation

This article will use role theory (Biddle 1986) and role identity theory (Burke & Stets 2009; Stets & Burke 2000) as the theoretical framework in which the study is embedded. Super (1990) stated that individuals occupy several (life) roles over the course of their lives. One such role is the work role that will assist the individual to integrate into the work community (Bothma, Lloyd & Khapova 2015) or the work organisation. The same principle applies in the workplace where it can be expected of individuals to occupy different work roles on different levels depending on their skills and preferences. Stander (2016), for instance, has identified no less than nine potential team roles and team

members are assigned to these roles based on their skills and preferences. Mintzberg (1973) also referred to 10 different managerial roles that managers fulfil. It is needless to say that individuals need to be engaged in all these work roles regardless of their levels.

Literature review

The literature review in this article will cover five distinct aspects, namely, engaging contributing factors on (1) an individual level, (2) a team level, (3) a managerial level, (4) empirical evidence of how these engagement levels mutually relate and (5) how these respective engagement levels relate to an engaging climate.

Individual engagement

The JD-R model (Demerouti & Bakker 2011; Demerouti et al. 2001; Hakanen & Roodt 2010; Llorens et al. 2006; Schaufeli & Bakker 2010) proposes that different resources and demands (depending on their proportional representation) will result in either work engagement or burnout. Schaufeli and Bakker (2010:13) defined and operationalised work engagement as '... a positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption' (see also Schaufeli & Salanova 2007).

According to Demerouti et al. (2001), job resources (JRs) are:

...those physical, psychological, social or organisational aspects of a job that either/or (1) reduce job demands and the associated physiological and psychological costs; (2) are functional in achieving work goals and (3) stimulate personal growth, learning and development. (p. 501)

De Braine and Roodt (2015) refer to

...proximal resources (those more closely linked to the individual) such as skill variety, relationship with supervisors and peers, and role clarity. Distal resources (those further removed from the individual) as team climate, perceived external prestige as well as flow of information and communication. (p. 89)

Job demands on the other hand refer to

...those physical, psychological, social or organisational aspects of a job that require sustained physical and/or psychological (i.e. cognitive and emotional) effort on the part of the employee and are therefore associated with certain physiological and/or psychological costs. (Demerouti et al. 2001:501)

Proximal JDs are those that are closer to the individual and include '...emotional demands, role ambiguity, role conflict, lack of job control, lack of social support (from supervisors and colleagues), lack of feedback and work overload'. Distal JDs are those that are further removed from the individual and '...could include an unfavorable physical work environment and an unsupportive climate' (De Braine & Roodt 2015:90).

Joubert (2014) listed a number of frequently cited studies that reported on empirical linkages between particular pull and

push variables, which can be related to engagement on an individual level. These studies are Bakker and Demerouti (2007); Bakker, Demerouti and Schaufeli (2003); Breevaat and Bakker (2018); Harter, Schmidt and Hayes (2002); Hitlin (2003); Jain and Ansari (2018); Kahn (1990); Llorens et al. (2006); Luthans, Luthans and Luthans (2004); Nienaber and Martins (2016); Maslach and Leiter (1997); May, Gilson and Harter (2004); Pati and Kumar (2010); Rothbard (2001); and Shuck, Adelsin and Reio (2017). Joubert (2014:80–81) listed the identified push and pull factors (including and beyond the JD-R model) related to individual engagement in Table 1.

Based on the strength of previously conducted empirical research on these above-listed factors, the following variables were selected as (1) pull and (2) push factors of individual engagement in the current study:

1. Pull factors: social support and performance feedback (Bakker et al. 2003) and autonomy (Bakker, Demerouti & Euwema 2005)
2. Push factors: work overload, emotional demands and physical demands (Bakker et al. 2005).

The above-mentioned variables are operationalised based on the following theoretical definitions: *social support* has been defined by Bakker and Demerouti (2007:315) as ‘...the support employees receive from their colleagues...’. Bakker

TABLE 1: Summary of reported empirical evidence on push and pull factors relating to individual engagement.

Factors	Empirical evidence
Pull factors	Autonomy
	Social support
	Quality of supervisor relationship
	Supervisor support
	(Performance) feedback
	Professional efficacy
	Well-being
	Personal accomplishments
	Informative support
	Psychological meaningfulness
	Psychological safety
	Psychological availability
	Job enrichment
	Work role fit
	Rewarding co-worker relationships
	Co-worker norm adherence
	Resources
	Self-consciousness
	Perceived organisational support
Participative decision-making	
Empowerment	
Push factors	Exhaustion
	Cynicism
	Emotional contagion
	Work overload
	Emotional demands
	Physical demands
	Work-home interference
	Depersonalisation
	Lack of personal accomplishment

Source: Adapted from Joubert, M., 2014, ‘A comprehensive engagement predictive model’, Unpublished Doctoral thesis, University of Johannesburg, Johannesburg, South Africa

et al. (2011:266) defined *performance feedback* as ‘...the likelihood of being successful in achieving one’s work goals’. Ackfeldt and Coote (2005:154) defined *autonomy* as the result of providing decision-making authority to employees at all levels. Bakker and Demerouti (2007:313) defined *work overload* as a job demand that contributes to employee exhaustion, especially in terms of employees’ mental and physical resources. Bakker et al. (2005:177) defined *emotional demands* as ‘...the frequency of exposure to emotionally demanding situations, such as complaints, impoliteness and intimidation’. *Physical demands* are defined as all aspects of a job that require physical effort from an employee and are associated with certain physiological costs, such as exhaustion (Bakker et al. 2003:395).

Based on this empirical evidence, the following research hypothesis was formulated:

- H1:** The selected pull and push factors are predictors of individual work engagement.

Team engagement

Schaufeli et al. (2002) defined team engagement as a ‘... positive, fulfilling work-related shared state characterised by vigor, dedication and absorption which emerges from the interaction and shared experiences of a work team’ (see also Mill 2008).

In the case of team engagement, the same argument is used where both the pull and push factors are identified, which may have an impact on team engagement. Only a limited number of studies have listed some pull and push factors that are related to team engagement (Aiqin et al. 2018; Aw & Ayoko 2017; Bakker, Van Emmerik & Euwema 2006; Bledouw 2009; Horton, McClelland & Griffin 2014; Jiang & McKay 2010; Lockwood 2007; Macleod & Clarke 2009; Patel et al. 2017; Raibick 2018; Torrente et al. 2012a; Ullah, Khattak & Rahman 2018). Joubert (2014:91–92) also listed these push and pull factors (beyond those reported in the JD-R model) that are related to team engagement in Table 2.

TABLE 2: Summary of reported empirical evidence on push and pull factors relating to team engagement.

Factors	Empirical evidence
Pull factors	Professional efficacy
	Team potency
	Team efficacy (collective efficacy, group efficacy)
	Interdependence (task interdependence)
	Team performance (team work)
	Cross-level interaction (cross-functional integration, collaboration, coordination)
	Group goals (team targets)
	Social support (team support)
	Racio-ethnic diversity
	Social cohesion
Push factors	Team level burnout
	Team level exhaustion
	Team level cynicism
	Emotional contagion

Source: Adapted from Joubert, M., 2014, ‘A comprehensive engagement predictive model’, Unpublished Doctoral thesis, University of Johannesburg, Johannesburg, South Africa

Based on the strength of empirical research conducted earlier on these above-listed factors, the following variables were selected as (1) pull and (2) push factors of team engagement in the current study:

1. Pull factors: supportive team climate, team work and coordination (Torrente et al. 2012b)
2. Push factors: team level burnout (Bakker et al. 2006), lack of group efficacy (Zellars et al. 2001) and team conflict (Miles & Kivlighan 2010).

The above-mentioned variables' operational definitions will be based on the following theoretical definitions: Anderson and West (1998:236) defined *organisational climate* as what is generally referred to as 'the way things are around here' and consequently *team climate* will be the way things are in the team. Lewis-Tyran and Gibson (2008) defined *teamwork* as

...teams of employees who are interdependent on one another, who are jointly responsible for objectives and who recognise themselves as teams (cf. Cohen & Baily 1997), which is the essential mechanism for achieving work objectives. (p. 48)

Kraut et al. (2005:10) defined *coordination* as '...the management of task interdependencies carried out in the context of relationships with other group members'. Bakker et al. (2006:467) defined *team-level burnout* as where employees '...may perceive symptoms of burnout in their colleagues and automatically take on the same symptoms'. Zellars et al. (2001:483) defines *team (collective) efficacy* as the team members' perceptions of their own group's competence or the group's ability to complete tasks successfully. Miles and Kivlighan (2010:117) defined (team) conflict as interpersonal conflict and even distrust.

Based on the empirical evidence provided, the following research hypothesis was formulated:

H2: The selected pull and push factors are predictors of team engagement.

Management engagement

In a similar vein as in the case of the above definitions of individual and team engagement, Joubert and Roodt (2016:59) defined management engagement as a '...positive, fulfilling work-related shared state characterised by vigor, dedication and absorption which emerges from the interaction and shared experiences of different managers and their interactions on "management level"'.

In the case of management engagement, both the identified pull and push factors that may have an impact on management engagement are identified in the following published research: Burke and El-Kot (2010); Flynn (2007); Furness (2008); Holland, Cooper and Sheenan (2017); Jena Lalatendu, Pradhan and Pranigrahy (2018); Lee et al. (2017); Luthans and Petersen (2002); Rothmann and Joubert (2007); Wiley, Kowske and Herman (2011); and Xu, Liu and Chung (2017). Joubert (2014:101) also listed such push and pull factors (beyond those reported in the JD-R model) that are related to team engagement in Table 3.

TABLE 3: Summary of empirical evidence on push and pull factors relating to management engagement.

Factors	Empirical evidence
Pull factors	Managerial (organisational) support
	Resources
	Advancement opportunities
	Job security
	Manager self-efficacy
	Leaders confidence in the future
	Managers who recognise employees
Push factors	Need for achievement
	Workload
	Exhaustion (job insecurity)
	Cynicism
	Psychosomatic symptoms
	Work-family conflict
	Organisational complexity
	Unclear performance standards
Intention to quit	

Source: Adapted from Joubert, M., 2014, 'A comprehensive engagement predictive model', Unpublished Doctoral thesis, University of Johannesburg, Johannesburg, South Africa

Based on the strength of empirical research conducted previously on these above-listed factors, the following variables were selected as (1) pull and (2) push factors of management engagement in the current study:

1. Pull factors: Manager self-efficacy, organisational support, and (management) resources (Rothmann & Joubert 2007).
2. Push factors: Management workload, (lack of) advancement opportunities, and job insecurity (Rothmann & Joubert 2007).

The above-mentioned variables' operational definitions are based on the following theoretical definitions: Luthans and Peterson (2002:379) defined (manager) *self-efficacy* as '...an individual's belief about his or her abilities to mobilise cognitive resources and courses of action needed to successfully execute a specific task within a given context'. Jackson and Rothmann (2005:115) defined *organisational support* as '...the relationship that employees have with their supervisor which includes potential ambiguities regarding their work, information, communication, and contact possibilities'. The variable *resources* in this instance is defined by Rothmann and Joubert (2007:55) '... as specific resources for managers, ... such as staff and equipment, and financial resources'. *Management workload* is, according to Joubert (2014:171), a consequence of increased complexity, challenges and the technical nature of the work. Rothmann and Joubert (2007:55) defined *advancement opportunities* as '...a job resource in the form of opportunities for growth and development, promotion, and financial progress'. Van Schalkwyk et al. (2010:2) defined *job insecurity* as an '...overall concern about the future of one's job'.

Based on the empirical evidence provided, the following research hypothesis was formulated:

H3: The selected pull and push factors are predictors of management engagement.

Empirical evidence of how these engagement levels mutually relate

Research that reports on the links or spillover effects on engagement between different organisational levels is sparse

(Bakker & Demerouti 2009; Bakker et al. 2006; Bakker & Xanthopoulou 2009). Bakker et al. (2006) in investigating spillover effects between individual and team levels established a link between individual and team engagement. In a similar vein, Tims, Bakker and Xanthopoulou (2011) reported on how managers impact their followers' work engagement. Rothmann and Joubert (2007) found that individual factors had an impact on managers' engagement levels. Schaufeli and Taris (2014) pointed out that the different push and pull factors should be studied in relation to the engagement construct on a particular level. The current study adheres to this compatibility principle. The mentioned studies suggest that there may be links or spillover effects between the roles that individuals occupy on different organisational levels. No previous studies could be found that simultaneously investigated the engagement phenomenon in different organisational roles across different organisational levels.

Relationships with an engaging climate

Al-Shammari (1992) argues that leaders are responsible for setting the overall tone in organisations, and consequently the leadership style should be considered as associated with the organisational climate (see also Lee et al. 2017; Xu et al. 2017). Other researchers such as Dladla (2009), Fisher, Milner and Chandraprakash (2007), Hamlin and Serventi (2008), Kidd and Smewing (2001) and Rego and Cunha (2008) identified the relationships between organisational climate, job satisfaction and engagement. Kidd and Smewing (2001) more specifically suggested that leaders, even low-level supervisors, play an important role in the establishment of a supportive organisational climate. Ferreira (2013) in her study on an engaging leadership climate defined an engaging leadership climate as: '...where leadership, climate and engagement intersect' (Ferreira & Roodt 2013:11). In order to develop an engaging climate in an organisation, one needs engagement on all the organisational levels. No studies could be found that have simultaneously investigated the effect of different engagement levels on an engaging climate. The fourth hypothesis of the study could therefore be formulated as follows:

H4: The three engagement constructs (individual, team and management) are predictors of engaging climate.

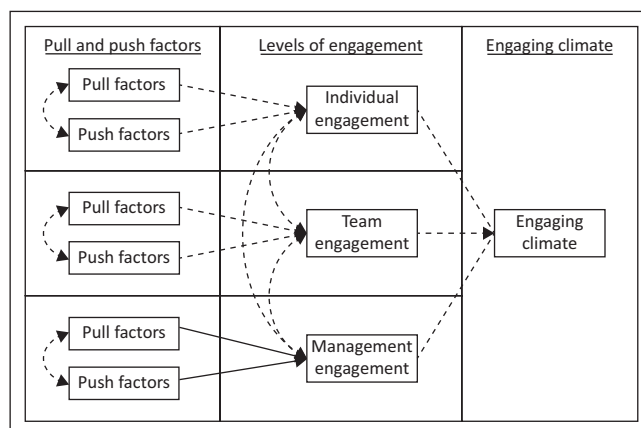
The model to be tested in the current study is presented in Figure 1.

The next section explains the research design and research method followed in the study.

Research design

Research approach

The research approach followed in this study is described as a cross-sectional survey design followed by *ex post facto* data analyses. The study therefore follows the quantitative research tradition where variable data are quantitatively analysed. The unit of analysis focused on in this study is the



Source: Authors' own compilation based on the empirical objectives of the study

FIGURE 1: The identified measurement model to be tested.

individual who performs different roles on different organisational levels. A multi-level study could have been considered, but posed too many challenges in terms of managing research ethics considerations, specifically with respect to anonymity and confidentiality of participants, and was therefore avoided.

Research method

The research method followed in this study is discussed under the following four subheadings.

Research participants and sampling

About 1750 supervisors, managers or management executives from three distinctively different organisations were targeted for this study, with the dominant consideration of establishing whether the research model will hold across these different organisations that function in different industries, possess different cultures and employ distinctively different policies and procedures in achieving their different strategic objectives. These three organisations are located in the public sector, the insurance industry and in the pharmaceutical research industry.

The approximately 1750 individuals targeted to participate by means of an electronic census-based survey were individuals who functioned in different roles on three different levels, namely, as individuals in their own right, as members of a team, or as supervisors, managers or executives. About 610 participants attempted to complete the survey, but only 425 fully completed surveys could be used for final statistical analysis (with an average response rate of about 24% per organisation, ranging between 18% and 33%). The large number (185) of incomplete responses had to be discarded owing to too many missing values. A strict cut-off of five missing values was used to label a response as incomplete.

It is evident from Table 4 that slightly more than half of the managers are men, nearly half are between 31 and 40 years of age, close to 60% have a university degree, about 75% have

TABLE 4: Sample analysis as per demographics.

Variables	Category	Frequency	Valid percentage
Gender	Male	189	44.7
	Female	234	55.3
	Total	423†	100.0
Age	21–30 years	75	18.1
	31–40 years	195	47.0
	41–50 years	100	24.1
	Above 50 years	45	10.8
	Total	415†	100
Qualifications	High school	53	12.6
	Diploma	76	18.0
	Bachelors	84	19.9
	Honours	168	39.8
	Masters +	41	9.7
	Total	422†	100.0
Tenure	2 years or less	46	11.2
	3–5 years	77	18.8
	6–10 years	116	28.3
	11–15 years	67	16.3
	16–20 years	46	11.2
	21–30 years	41	10.0
	31 years +	17	4.1
	Total	410†	100.0
Work status	Permanent	410	97.2
	Temporary	5	1.2
	Contract	7	1.7
	Total	422†	100.0
Managerial level	First-line supervisor	85	20.2
	Middle manager	210	50.0
	Senior manager	101	24.0
	Executive	24	5.7
	Total	420†	100.0
Mother tongue (Home language)	English	190	45.9
	Zulu	18	4.3
	Afrikaans	152	36.7
	Tswana	13	3.1
	Pedi	14	3.4
	Xhosa	20	4.8
	Sotho	7	1.7
	Total	414†	100.0

Source: Authors' own compilation based on empirical data generated by the study
†, these varying sample sizes are attributed to missing values.

work experience between 3 and 20 years, 97% are full-time employment and nearly 75% are on middle and senior management levels. Most of the managers are speaking either English (46%) or Afrikaans (37%).

Measuring instruments

Owing to the large number of measuring instruments involved in the study, only a summary table of measuring instruments used on each level will be presented here. Table 5 includes the independent variables (pull and push factors) as well as the UWES-9 (Utrecht Work Engagement Scale) for measuring individual work engagement as the dependent variable. The items of all these listed measures (including the UWES-9) were subjected to iterative item and reliability analyses.

It is evident from Table 5 that all scales have acceptable internal consistency reliabilities.

TABLE 5: Measures for testing the individual engagement measurement model.

Measure (authors)	Pull or push	Independent or dependent	No. of items	Alpha coefficient
Social support (Bakker et al. 2003, 2005)	Pull	Independent	4	0.877
Performance feedback (Bakker et al. 2003)	Pull	Independent	5	0.818
Autonomy (Bakker et al. 2004)	Pull	Independent	4	0.899
Work overload (Bakker et al. 2003)	Push	Independent	4	0.899
Emotional demands (Bakker et al. 2003)	Push	Independent	4	0.845
Physical demands (Bakker et al. 2003)	Push	Independent	4	0.683
UWES-9 (Schaufeli et al. 2002; Schaufeli, Bakker & Salanova 2006)	-	Dependent	9	0.926

Source: Authors' own compilation based on empirical data generated by the study.

TABLE 6: Measures for testing the team engagement measurement model.

Measure (authors)	Pull or push	Independent or dependent	No. of items	Alpha coefficient
Supportive team climate (Torrente et al. 2012b)	Pull	Independent	3	0.582
Team work (Torrente et al. 2012)	Pull	Independent	4	0.882
Coordination (Kraut et al. 2005)	Pull	Independent	6	0.678
Team-level burnout (Bakker, Van Emmerik & Euwema 2006)	Push	Independent	4	0.793
Lack of group efficacy (Zellers et al. 2001)	Push	Independent	4	0.658
Team conflict (Miles & Kivlighan 2010)	Push	Independent	4	0.818
Team Engagement Scale (Torrente et al. 2012b)	-	Dependent	9	0.945

Source: Authors' own compilation based on empirical evidence generated by the study

Similarly, only a summary table of measuring instruments used on the team level will be presented. Table 6 includes the independent variables (pull and push factors) as well as the team engagement scale for measuring team engagement as the dependent variable. The items of all these listed measures (including the team engagement scale) were subjected to iterative item and reliability analyses.

All variables displayed in Table 6 have acceptable internal consistency reliabilities, except for supportive team climate that is below 0.6.

A summary table of measuring instruments used on the management level will be presented next. Table 7 includes the independent variables (pull and push factors) as well as the management engagement scale for measuring management engagement as the dependent variable. The items of all these listed measures (including the management engagement scale and the engaging climate scale) were subjected to iterative item and reliability analyses.

It should be noted that all the included variables in Table 7 have acceptable internal consistency reliabilities, except for the resources and the job insecurity variables.

Research procedure

The survey was designed by including the measurement scales as described above and was then subjected to a pilot study that included 10 individuals in the financial services

TABLE 7: Measures for testing the management engagement and engaging climate measurement models.

Measure (authors)	Pull or push	Independent or dependent	No. of items	Alpha coefficient
Manager self-efficacy (Luthans & Peterson 2002)	Pull	Independent	13	0.948
Organisational support (Rothmann & Joubert 2007)	Pull	Independent	4	0.898
Resources (Rothmann & Joubert 2007)	Pull	Independent	4	0.439
Workload (Storm & Rothmann 2008)	Push	Independent	4	0.678
Lack of advancement opportunities (Rothmann & Joubert 2008)	Push	Independent	7	0.847
Job insecurity (Rothmann & Joubert 2008)	Push	Independent	7	0.412
Management engagement scale (Joubert 2014)	-	Dependent	9	0.948
Engaging climate (Ferreira 2013)	-	Dependent	15	0.969

Source: Authors' own compilation based on empirical evidence generated by the study.

industry. The feedback received from these participants as well as their written responses were reviewed to determine their understanding of the items. As a result of this pilot study, a number of minor changes were made to some of the items of some measures.

The actual survey was launched over a period of 4 weeks. The URL was sent out to the potential respondents of the three participating companies and all the survey data were collected electronically over this period. During the last 2 weeks, the respondents received electronic reminders and the survey was then closed. All research ethic protocols and principles of the university were adhered to during the execution of the research project.

Statistical analyses

A particular sequence was followed for the data analysis. Firstly, an exploratory factor analysis (EFA) was conducted to establish if the original construct could be replicated and if any items would 'migrate' to other measures. Secondly, item and reliability analyses were conducted on different established variables. Thirdly, all the items of these variables (for the combined pull and push factors) were subjected to a confirmatory factor analysis (CFA) to test the fit of the measurement model. This resulted in some items being discarded to improve the model fit. Finally, structural equation models (SEMs) were conducted to predict engagement on the respective levels as well as engaging climate. The structural model fit of these SEMs was also improved by removing some items or variables.

The results of the CFAs are presented and discussed per variable in terms of absolute fit and incremental fit measures. Absolute fit measures are the chi-square (χ^2), degrees of freedom (df), the chi-square/degrees of freedom ratio (χ^2/df) and the root mean square error of approximation (RMSEA). Incremental fit indices are the Bentler-Bonnett normed fit index (NFI), non-normed fit index (NNFI) and the comparative fit index (CFI). The required limits for fit indices used in this study are as follows (Hair et al. 2009; Kline 2005):

- maximum likelihood of model fit (relative chi-square measurement): $\chi^2/df < 5$
- GFI: 0.88–0.99
- CFI: 0.88–0.99
- RMSEA: 0.001–0.12.

Ethical considerations

All University of Johannesburg research ethics protocols were observed and adhered to in this study.

Results

The EFA results, the CFA fit statistics as well as the SEM fit statistics will be reported for the different models that were tested on different levels. The results for the individual engagement models are reported below.

Testing the measurement model fit for combined push and pull factors for each of the three engagement levels

The EFA results for the combined pull and push factors on an individual level are as follows: the combined scales' Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) was 0.854, with a Bartlett's test of sphericity chi-square value of 6241.709 ($df = 325$; $p < 0.01$). This factor matrix is therefore suitable for factor analysis. Five interpretable factors were extracted with the number of retained items in brackets. The first factor was *social support* (four items – Q28, Q29, Q30 and Q31), the second factor was *work overload* (three items – Q41, Q42 and Q43), the third factor was *emotional demands* (four items – Q46, Q47, Q48 and Q49), the fourth factor was *autonomy* (four items – Q37, Q38, Q39 and Q40) and the fifth factor was *performance feedback* (four items – Q32, Q33, Q35 and Q36). Item Q53 was removed for loading on the wrong factor, item Q50 for having a too low factor loading, item Q34 did not load on any factor and items Q44, Q45, Q51 and Q52 loaded on two separate factors. *Physical demands* emerged as a split factor (two items – Q51 and Q52; two items – Q44 and Q45), both were non-determined and therefore omitted from further analysis.

The intercorrelation matrix of the combined pull and push factors on team level engagement yielded the following results: a KMO MSA of 0.929, with a Bartlett's test of sphericity chi-square value of 6230.458 ($df = 300$; $p \leq 0.01$), thereby confirming the factorability of the matrix. Five factors were extracted (with the number of items in brackets): *teamwork* (five items – Q67, Q68, Q69, Q70 and Q73), *coordination* (five items – RQ65, RQ72, RQ74, RQ76 and RQ88), *team-level burnout* (two items – RQ77 and RQ78), *group efficacy* (three items – Q81, Q82 and Q84) and *team conflict* (three items – Q85, Q86 and Q87). During the EFA analysis, Q65, Q72, Q76, Q77, Q78 and Q88 were reversed. Item Q83 was removed because it loaded as a single item on a factor. A number of questions (Q80, Q66, Q63, Q64, Q75 and Q79) were excluded from the analysis because of low factor loadings.

The intercorrelation matrix of the combined different push and pull factor relating to management engagement yielded

the following results: the combined analysis had a KMO MSA of 0.912, with a Bartlett's test of sphericity chi-square value of 9110.325 ($df = 741$; $p = 0.01$). The factorability of this matrix is hereby confirmed. Eight factors were included in the CFA: (1) *manager self-efficacy 1 – delegation and communication*, (2) *manager self-efficacy 2 – motivating and inspiring*, (3) *organisational support*, (4) *resources*, (5) *job insecurity*, (6) *management workload*, (7) *lack of advancement opportunities 1 – remuneration* and (8) *lack of advancement opportunities 2 – decision-making*. Factors 6 and 8 had only two items loading on the variables and thus were removed. The items included the measurement model were as follows: *manager self-efficacy 1 – delegation and communication* (10 items – Q98, Q99, Q100, Q101, Q102, Q103, Q104, Q105, Q106 and Q107), *manager self-efficacy 2 – motivation and inspiration* (4 items – Q108, Q109, Q110 and Q121), *organisational support* (4 items – Q111, Q112, Q113 and Q114), *resources* – (3 items – RQ116, Q117 and Q118), *management workload* (3 items – RQ119, RQ120 and RQ122), *lack of advancement opportunities 1 – remuneration* (3 items – Q124, Q125 and Q126), *lack of advancement opportunities 2 – decision-making* (2 items – Q128 and Q129) and those two items (Q128 and Q129) were consequently removed, and *job insecurity* (6 items – RQ131, RQ132, RQ133, Q134, RQ135 and RQ136). During the EFA analysis, Q116, Q119, Q120, Q122, Q131, Q133, Q136 and Q135 were recoded. Q102, Q123 and Q107 were excluded because they were cross-loading on their respective factors. Q115, Q127, Q130 and RQ116 were excluded because they had low factor loadings.

Miles and Shevlin (2001) explained that SEM is an evaluation methodology to determine how well the data fit an underlying structural model. Structural equation models therefore test both a measurement model (by using a CFA) and a structural model (by using a SEM) individually and concurrently (Byrne 2001). The fit statistics of the measurement models for combined push and pull factors on the three engagement levels are reported in Table 8. The Mardia (1970) normalised coefficient of multivariate kurtosis for the combined individual pull and push factor measurement models on each level was established and consequently the adjusted Yuan–Bentler fit statistics were considered (Bentler 2006).

Table 8 indicates that the three measurement models were confirmed for the combined pull and push factors for predicting engagement on each of the three levels. All fit indices show a good model fit. These measurement models can therefore be used in the SEMs.

Testing the measurement model fit for the three engagement levels and engaging climate

The fit statistics for the measurement models to predict engagement on each of the three levels as well as for engaging climate are presented in Table 9.

It is evident from Table 9 that the fit criteria of all the indices were met. These models are therefore suitable to be included in the SEMs.

Testing the structural model fit for predicting engagement on each of the three engagement levels as well as for engaging climate

The fit statistics for the structural models for predicting engagement on each of the three engagement levels are presented in Table 10. Table 10 also presents the fit statistics for testing the possibility of collinearity between the three engagement constructs as well as the structural model for predicting engaging climate.

The CFA fit statistics confirm that there is no collinearity between the engagement variables in the model and it also confirms the differential validity of the three engagement variables. It is evident from Table 10 that all the fit indices for these four remaining structural models are good and that these models can be interpreted. The three engagement models are presented in Figures 2–4.

The SEM (see Figure 2) for the prediction of individual engagement confirms a significant relationship between the observed push and pull factors and *individual engagement* which is in support of H1. The model yielded an overall R^2 -value of 0.458, with significant path coefficients between *individual engagement* and the pull factors *social support* (0.239), *work overload* (0.145), *autonomy* (0.234) and *performance*

TABLE 8: Confirmatory factor analysis goodness of fit statistics for combined pull and push factors for three engagement level measurement models ($N = 425$).

Model number	Mardia	χ^2	df	χ^2/df	NFI	NNFI	CFI	RMSEA (Confidence interval)
2. P & P: Individual Eng.	48.6454	327.186	142	2.30	0.921	0.944	0.953	0.055 (0.048–0.063)
1. P & P: Team Eng.	44.8843	325.784	125	2.61	0.918	0.936	0.948	0.062 (0.053–0.070)
1. P & P: Manag. Eng.	57.1115	853.019	436	1.96	0.885	0.931	0.940	0.047 (0.043–0.052)

Source: Authors' own compilation based on empirical evidence generated by the study.

Note: All indices are at $p \leq 0.001$ unless otherwise indicated.

χ^2 , chi-square; df, degrees of freedom; NFI, normed fit index; NNFI, non-normed fit index; CFI, comparative fit index; RMSEA, root mean square error of approximation.

TABLE 9: Confirmatory factor analysis goodness of fit statistics for the measurement models of the three engagement level scales and engaging climate ($N = 425$).

Model number	Mardia	χ^2	Df	χ^2/df	NFI	NNFI	CFI	RMSEA (Confidence interval)
1. Individual engagement	59.5655	162.116	27	2.72	0.903	0.890	0.918	0.109 (0.093–0.125)
1. Team engagement	67.0273	128.536	27	4.76	0.935	0.930	0.948	0.094 (0.078–0.111)
2. Management engagement	88.8136	101.856	20	5.09	0.936	0.927	0.948	0.098 (0.080–0.117)
2. Engaging climate	57.452	335.831	78	4.31	0.927	0.928	0.940	0.099 (0.089–0.110)

Source: Authors' own compilation based on empirical evidence generated by the study.

Note: All indices are at $p \leq 0.001$ unless otherwise indicated.

χ^2 , chi-square; df, degrees of freedom; NFI, normed fit index; NNFI, non-normed fit index; CFI, comparative fit index; RMSEA, root mean square error of approximation.

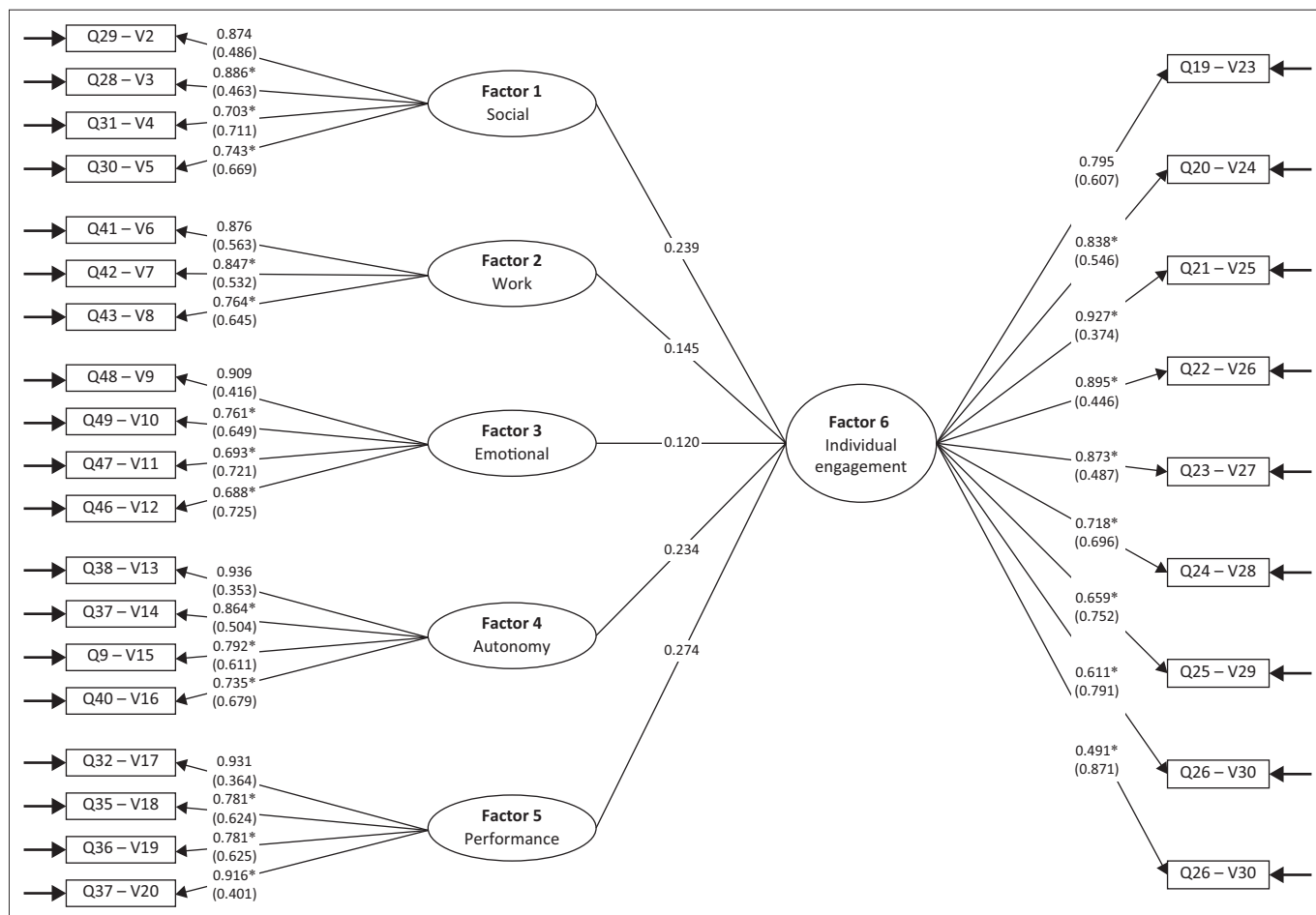
TABLE 10: Confirmatory factor analysis goodness of fit statistics for the structural equation models for predicting three engagement levels, test for collinearity and engaging climate ($N = 425$).

Model number	Mardia	χ^2	Df	χ^2/df	NFI	NNFI	CFI	RMSEA (Confidence interval)
1. Individual engagement	70.446	777.591	335	2.32	0.884	0.921	0.93	0.056 (0.051–0.061)
1. Team engagement	69.818	717.024	309	2.32	0.898	0.931	0.939	0.056 (0.050–0.061)
2. Management engagement	87.35	1337.45	573	2.33	0.872	0.914	0.922	0.056 (0.052–0.060)
4. Collinearity test	75.201	686.445	206	3.33	0.896	0.916	0.925	0.075 (0.068–0.081)
4. Engaging climate	75.20	686.445	206	3.33	0.896	0.916	0.925	0.075 (0.068–0.081)

Source: Authors' own compilation based on empirical evidence generated by the study.

Note: All indices are at $p \leq 0.001$ unless otherwise indicated.

χ^2 , chi-square; df, degrees of freedom; NFI, normed fit index; NNFI, non-normed fit index; CFI, comparative fit index; RMSEA, root mean square error of approximation.



Source: Authors' own compilation based on empirical evidence generated by the study

*, $p \leq 0.01$; standardised coefficients in brackets.

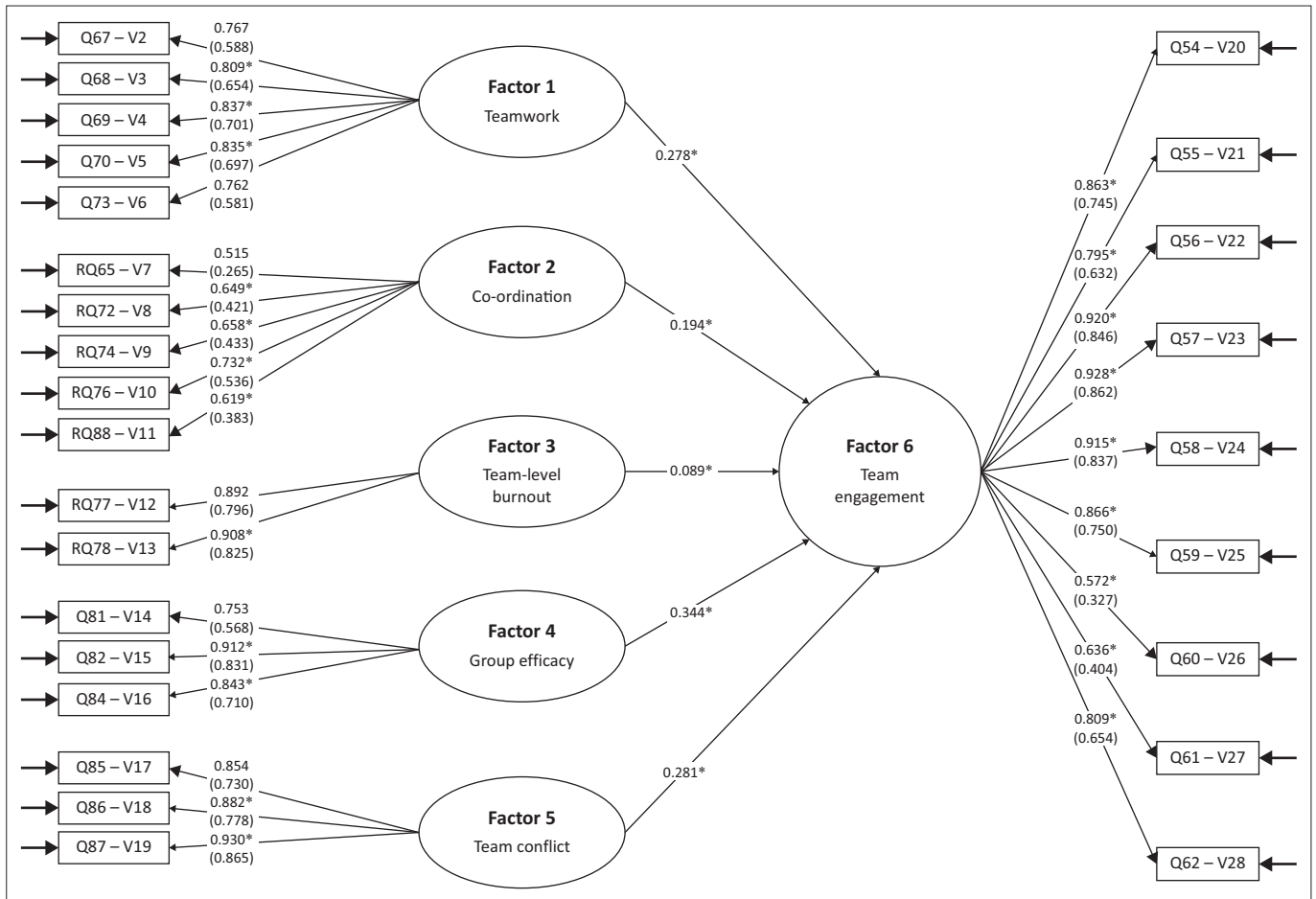
FIGURE 2: Structural equation model for individual engagement.

feedback (0.274). Only one push factor, *emotional demands* (-0.120), related negatively to *individual engagement*. All the pull and push factor items included in the model were significantly related to the latent variables, except for items Q29, Q41, Q38 and Q32. The only individual engagement item that was not significantly related to the criterion variable, *individual engagement*, was Q19. This structural model is therefore suitable for interpretation.

The SEM (see Figure 3) for the prediction of team engagement confirms a significant relationship between the observed push and pull factors and *team engagement* which is in support of H2. The model for *team engagement* yielded a high overall R^2 -value of 0.638. Significant path coefficients for *team engagement* related positively to *teamwork* (0.278), *team-level*

burnout (0.089), *group efficacy* (0.344) and *team conflict* (0.281), but *coordination* (-0.194) related negatively to *team engagement*. All the pull and push factor items were significantly related to the latent variables except for items Q67, RQ65, RQ77, Q81, and Q85. Only one team engagement item was not significantly related to *team engagement*, namely Q54. This structural model is therefore suitable for interpretation.

The SEM (see Figure 4) for the prediction of management engagement confirms a significant relationship between the observed push and pull factors and *management engagement*, which is in support of H3. The CFA on the SEM yielded a high overall R^2 -value of 0.526. *Management engagement* related positively to *manager self-efficacy 1 and 2* (0.435), *organisational support* (0.266), *resources* (0.043), *management workload* (0.161)



Source: Authors' own compilation based on empirical evidence generated by the study.

*, $p \leq 0.01$; standardised coefficients in brackets.

FIGURE 3: Structural equation model for *team engagement*.

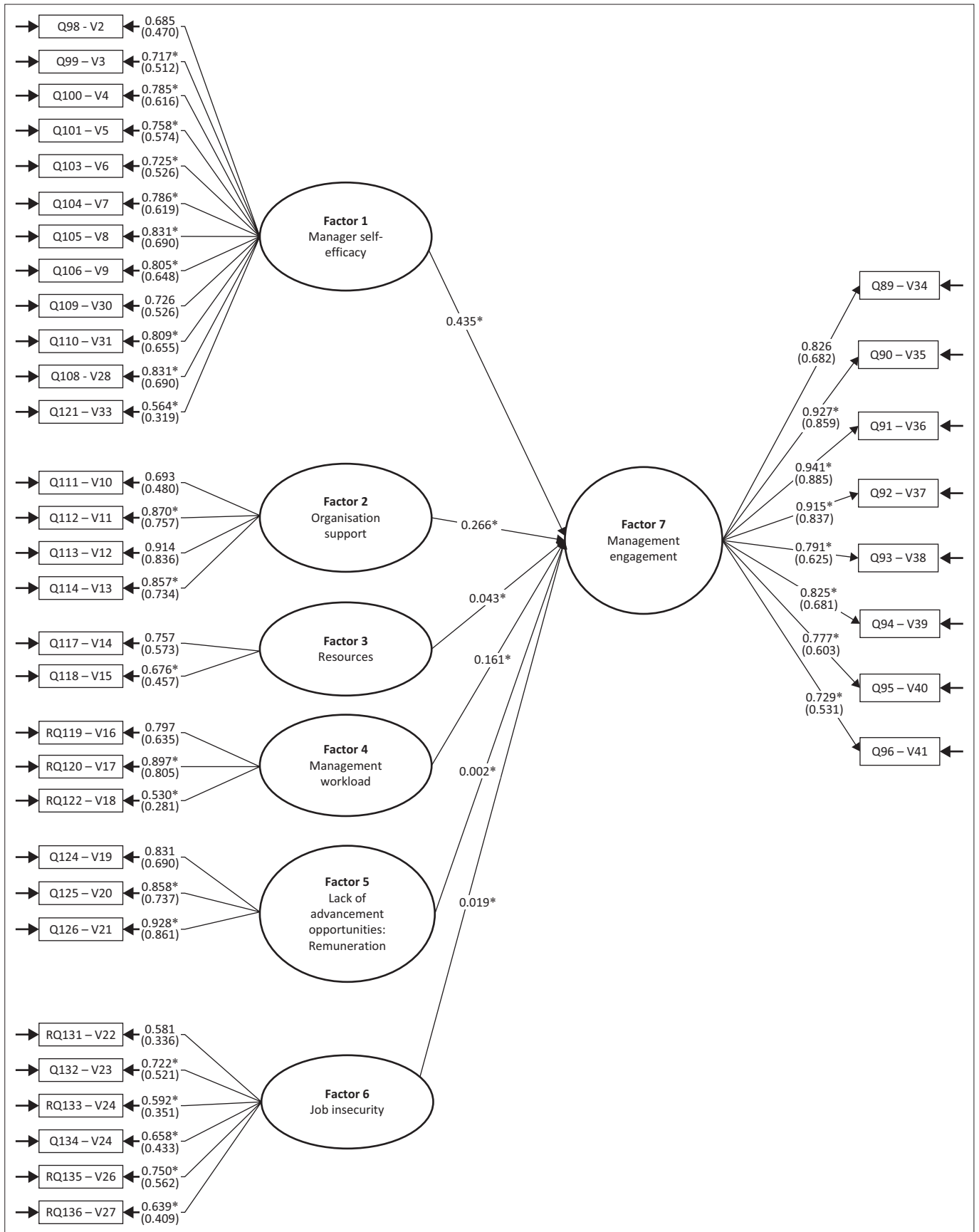
and *lack of advancement opportunities 1 – remuneration* (0.002), while *job insecurity* (−0.019) related negatively to *management engagement*. Most of the items were significantly related to the latent variables, except for items Q98, Q111, Q117, RQ119, Q124 and RQ131. The only management engagement item that was not significantly related to *management engagement* was Q89. This structural model is therefore suitable for interpretation. The SEM for predicting *engaging climate* is presented next in Figure 5.

It is evident from Figure 5 that there exists a significant relationship between all three levels of engagement – *individual engagement* (0.271), *team engagement* (0.155) and *management engagement* (0.209) – and *engaging climate*, which is also in support of H4. This structural model yielded an overall R^2 -value of 0.306. These three levels of engagement are also mutually related. *Individual engagement* is related to *team engagement* (0.554), which in turn is related to *management engagement* (0.533). *Management engagement* is also related to *individual engagement* (0.735). It was established that no significant collinearity between different engagement constructs on different levels is present. The pull and push factor items were all related to the latent variables, except for items IE19, TE54 and ME89. The only engaging climate item that was not significantly related to *engaging climate* was Q137. This structural model is therefore suitable for interpretation.

Discussion

The research problem investigated in this study emanates from the fact that work engagement (as frequently being used in the JD-R Model [Demerouti et al. 2001]) is only operationalised as an individual level construct. Based on the multiple roles that individuals (more specifically, managers) often occupy across different organisational levels, the following question is raised: should employee engagement not be conceptualised as a multi-level construct? The main research question of the study was therefore framed as follows: 'which push and pull factors contribute towards individuals' engagement in different roles that they simultaneously hold on individual, team and/or management levels?' Role theory suggests that individuals can occupy different roles on different levels depending on their skills and preferences (Stander 2016). The different contexts on these different levels may therefore activate unique pull and push factors to facilitate engagement on these levels. As stated earlier, the following ROs of the study were formulated to test, respectively, H1–H4:

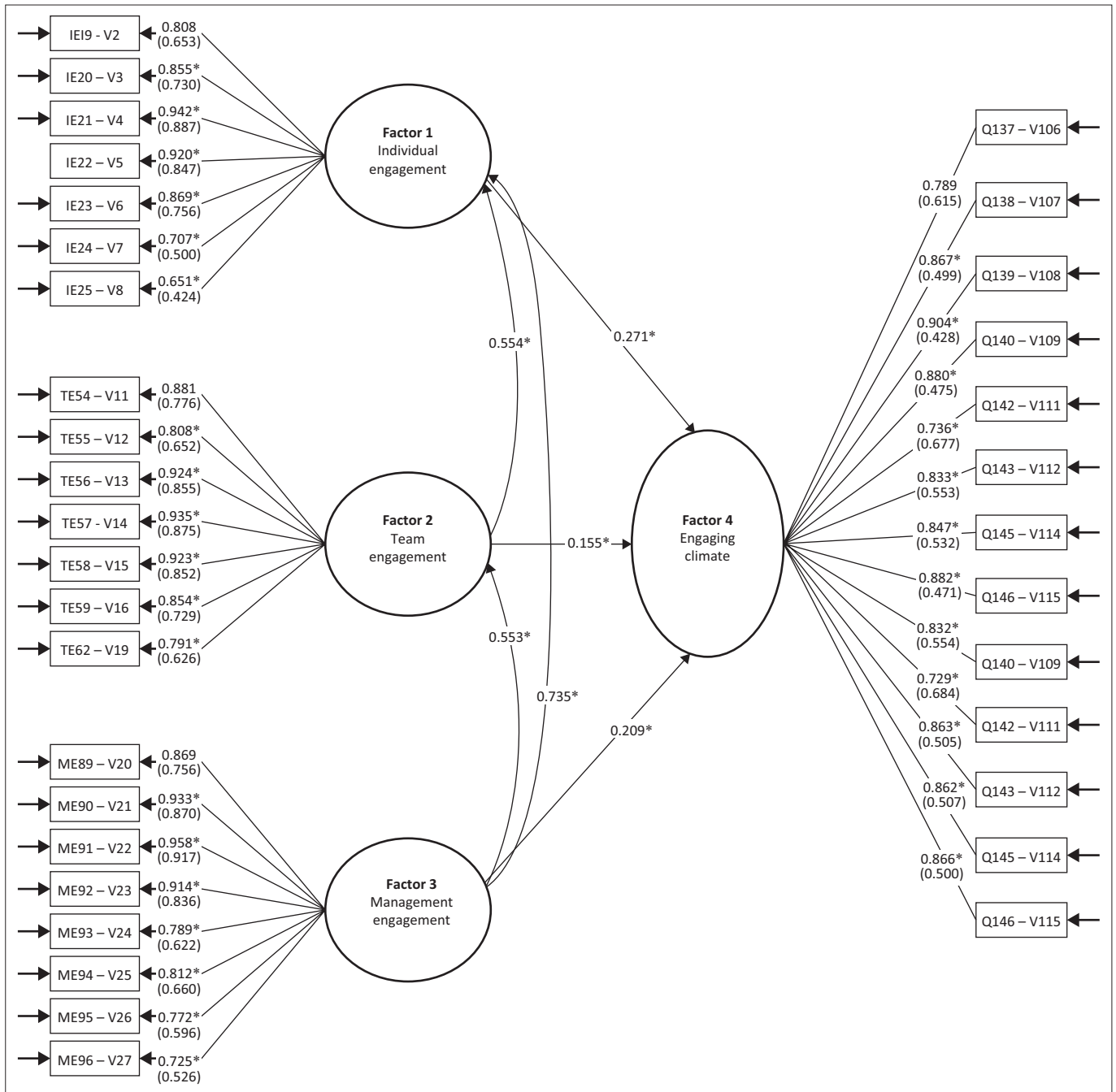
- RO1 – Selected push and pull factors promote employee engagement on an individual level.
- RO2 – Selected push and pull factors promote employee engagement on a team level.



Source: Authors' own compilation based on empirical evidence generated by the study.

*, $p \leq 0.01$; standardised coefficients in brackets.

FIGURE 4: Structural equation model for *management engagement*.



Source: Authors' own compilation based on empirical evidence generated by the study.

*, $p \leq 0.01$; standardised coefficients in brackets.

FIGURE 5: Structural equation model for *engaging climate*.

- RO3 – Selected push and pull factors promote employee engagement on a management level.
- RO4 – How employee engagement on these mentioned levels is mutually related as well as related to an engaging climate?

This study, to the authors' knowledge, is the first to simultaneously include pull and push factors on three different organisational levels to predict employee engagement of individuals fulfilling roles on those levels. In turn it also established how engagement in roles on these three levels is related to engaging climate.

Summary of the research results

The research results will be briefly presented as per the ROs of the study.

Research results with respect to RO1

A review of the literature suggested that a large number of studies have been conducted identifying a range of different pull and push factors that are related to employee engagement (including and beyond the JD-R model) on an individual level (see Table 1). Frequently cited studies in this respect are by Bakker and Demerouti (2007), Bakker et al. (2003),

Breevaat and Bakker (2018), Harter et al. (2002), Hitlin (2003), Jain and Ansari (2018), Kahn (1990), Llorens et al. (2006), Luthans et al. (2004), Nienaber and Martins (2016), Maslach and Leiter (1997), May et al. (2004), Pati and Kumar (2010), Rothbard (2001) and Shuck et al. (2017). Variables were then selected from this list and included as pull and push factors to predict *individual engagement* in the current study, namely, *social support* (Bakker et al. 2003); *performance feedback* (Bakker 2011), *autonomy* (Bakker et al. 2005), *work overload* (Bakker et al. 2006), and *emotional demands* and *physical demands* (Bakker et al. 2005).

Empirical evidence emanating from the CFA on the structural model confirmed significant path coefficients between individual engagement and the pull factors social support, work overload, autonomy and performance feedback. Only one push factor, emotional demands, related negatively to individual engagement. The physical demands factor was excluded from the model, which is in contrast with some of the studies listed above; however, this can be explained if one considers the non-physical nature of managerial work. The model yielded an overall R^2 -value of 0.458. These results confirm the findings of almost all the above-listed studies and also support H1: The selected pull and push factors are predictors of individual work engagement.

Research results with respect to RO2

A review of the literature only found a limited number of studies that had listed pull and push factors related to *team engagement*, namely, Aiqin et al. (2018), Aw and Ayoko (2017), Bakker et al. (2006), Bledouw (2009), Horton et al. (2014), Jiang and McKay (2010), Lockwood (2007), Macleod and Clarke (2009), Patel et al. (2017), Raibick (2018), Torrente et al. (2012a) and Ullah et al. (2018). The variables used in these studies to predict team engagement are listed in Table 2. Variables for the current study were selected from this list and included as pull and push factors to predict team engagement, namely, *supportive team climate*, *team work* and *coordination* (Torrente et al. 2012a), *team-level burnout* (Bakker et al. 2006), *lack of group efficacy* (Zellars et al. 2001) and *team conflict* (Miles & Kivlighan 2010).

Empirical evidence emanating from the CFA confirmed significant path coefficients between the observed push and pull factors and team engagement, which is in support of H2, that is, the selected pull and push factors are predictors of team engagement. The model for team engagement yielded a high overall R^2 -value of 0.638. Significant path coefficients for team engagement related positively to teamwork, team-level burnout, group efficacy and team conflict, but coordination related negatively to team engagement. In the latter case, coordination (or the lack thereof) turned into a push factor. All five factors were mutually significantly related.

Research results with respect to RO3

A systematic review of the literature could only identify a few studies that suggested a link between different pull and

push factors with *management engagement*, namely, Burke and El-Kot (2010), Flynn (2007), Furness (2008), Holland et al. (2017), Jena Lalatendu et al. (2018), Lee et al. (2017), Luthans and Petersen (2002), Rothmann and Joubert (2007), Wiley et al. (2011) and Xu et al. (2017). The pull and push factors identified in these studies are listed in Table 3. Selected pull and push factors were then identified from this list for use in the current study, namely, *manager self-efficacy* (Luthans & Peterson 2002), *organisational support* (Rothmann & Joubert 2007), *resources* (Rothmann & Joubert 2007), *management workload* (Storm & Rothmann 2003), *(lack of) advancement opportunities* (Rothmann & Joubert 2007) and *job insecurity* (Van Schalkwyk et al. 2010).

Empirical evidence resulting from the CFA confirmed significant path coefficients between management engagement and manager self-efficacy, organisational support, resources, management workload and lack of advancement opportunities (remuneration), while job insecurity related negatively to management engagement which is in support of H3: the selected pull and push factors are predictors of management engagement. In this instance, management workload and the lack of advancement opportunities related positively with management engagement. This is an unexpected result. The reason for this may be that South African managers know that workload and lack of advancement opportunities is part and parcel of the managerial work challenge. The model yielded an overall R^2 -value of 0.526.

Research results with respect to RO4

Based on a review of the literature, only a few studies could be identified that investigated spillover or crossover effects between different engagement levels, namely, Bakker et al. (2006), Tims et al. (2011) and Rothmann and Joubert (2007).

Empirical evidence resulting from two separate CFAs confirmed (1) that the engagement constructs in the model were not collinear, but were separate constructs in their own right, despite the fact that they were operationally defined by using the same theoretical definition, and (2) that these three engagement constructs were all significantly mutually related and also related to engaging climate. Significant relationship between all three levels of engagement – individual engagement, team engagement, and management engagement – and engaging climate is found, which is also in support of H4: the three engagement constructs (individual, team and management) are predictors of engaging climate. This model yielded an overall R^2 -value of 0.306.

Conclusions and recommendations

The study achieved all the stated ROs. Firstly, it confirmed that the selected pull and push factors on an individual level are related to individual engagement. In this instance, the pull factors social support, work overload, autonomy and performance feedback were positively related to individual engagement, while the push factor emotional demands was negatively related. Physical demands were unrelated to

individual engagement and therefore omitted from the model. RO1 of the study is hereby achieved.

Secondly, the study confirmed that the selected pull and push factors on a team level are related to team engagement. In this case, the pull factors teamwork, team-level burnout, group efficacy and team conflict were positively related to team engagement, while coordination was negatively related. RO2 of the study is hereby achieved.

Thirdly, the study confirmed that the selected pull and push factors on management level are related to management engagement. In this instance, the pull factors manager self-efficacy, organisational support, resources, management workload and lack of advancement opportunities – remuneration were positively related to management engagement, while job insecurity was negatively related. RO3 of the study is hereby achieved.

All three of the above ROs show that different sets of pull and push factors promote engagement at individual, team and management levels. This result is in support of the notion that different roles and their unique contexts create different pull and push factors that are at play on these levels. It is therefore argued that employee engagement should be operationalised as a multi-level model. The results also show that pull factors can turn into push factors if the basic conditions (thresholds) for promoting engagement are met or not met. Thus, an inverted U-relationship may exist between some pull and push factors and engagement on each level. In this instance, some push factors turned surprisingly into pull factors (e.g. work overload, team-level burnout and manager workload, respectively, on individual, team and management levels). It seems that this phenomenon is unique to the South African context.

RO4 confirmed two aspects: (1) that all three types of engagement (individual, team and management) are not collinear and are independent constructs in their own right and (2) that all three types of engagement are positively related to each other, and also to engaging climate. This result confirms that all three levels provide a more inclusive and comprehensive view of employee engagement. RO4 is hereby achieved. This result confirms possible contagion or spillover effects between these different types of engagement in the prediction of an engaging climate (cf. Bakker & Demerouti 2009; Bakker et al. 2006; Bakker & Xanthopoulou 2009).

Implications of the results

It is foreseen that the results reported above have significant implications for HR practitioners and researchers.

For human resource practitioners and managers

Human resource practitioners and managers should be aware of the fact that individuals operate in unique roles that each have their own unique contextual demands and resources. Human resource practitioners and managers

therefore should not promote employee engagement without being aware of the different roles at play within their different contexts. A one-size-fits-all approach will therefore not be effective. This means that HR practitioners and managers should, firstly, know what these roles and their respective contexts are; secondly, what the most important pull and push factors in these different contexts are; and, thirdly, what the potential crossover or spillover effects between these different roles may be. They should also be aware of the fact that managers are mainly responsible for creating an engaging climate in organisations, which means that if they are not engaged themselves, it may have dire spillover or crossover effects on lower tiers in the organisation. By consciously managing these pull and push factors on different levels, they can promote individuals' engagements on these levels.

For researchers

Role theory and role identity theory suggest that individuals function in different roles and that these roles may be on different levels and each may have unique contexts. This necessitates to have a relook at the way employee engagement is conceptualised and measured. Empirical evidence of this study suggests that employee engagement can be conceptualised as a multi-level construct based on different roles that individuals occupy. It is suggested that for a more inclusive measurement model of employee engagement these three levels should be included in such a model. The study furthermore shows that these different contexts may have spillover; crossover or contagion effects on lower tier levels, which may ultimately have an impact on employee engagement or disengagement on the lower levels (cf. Bakker & Demerouti 2009; Bakker et al. 2006; Bakker & Xanthopoulou 2009).

Limitations of the study

This study was exploratory in nature and therefore was conducted in only three organisations, with a relatively small overall sample size. However, the research model was confirmed across three distinctly different organisations, each functioning in a different industry. The sample size was also large enough to conduct all the required statistical analyses for the study without compromising their rigour.

Based on role theory, it was decided to target individuals with management responsibility who occupied different roles across different levels in organisations. A multi-level analysis could have been used, but this would have added to the complexity of collecting the data, with the possible violation of ethical principles with respect to anonymity and confidentiality.

A third possible limitation that may be present is the effect of common method variance. The fact that response data were collected for all variables in the same way, may have artificially enhanced the relationships between the variables.

Suggestions for future research

We suggest that this study should be replicated across more organisations and in different countries with larger sample sizes. If in any way practically possible (and without violating any ethical principles), the study should be conducted across different tiers in the organisation by using different sample groups on each tier, but linked in terms of their reporting lines and/or authority spans (i.e. a multi-level study). This may possibly yield a different picture altogether. However, this approach of linking the different tiers would pose challenges in terms of participant anonymity and confidentiality.

Another suggestion may be to identify the most important pull and push factors that individuals deem important and then to link them empirically to the respective levels rather than to rely only on theoretical evidence for making these links.

Literature suggests that several stakeholder groups are involved in organisations, and that these stakeholders should be effectively engaged for achieving strategic objectives of the organisation. Similar studies can therefore be conducted by focussing on other stakeholder groups (e.g. customers, communities and organised labour) and how they contribute towards organisational performance.

Summative conclusion

The study set out to determine which pull and push factors contribute to individuals' engagement in the different roles that they simultaneously hold on individual, team and/or management levels. A systematic literature review conducted earlier suggested which pull and push factors could be considered on each level. A quantitative research approach was followed by conducting a cross-sectional survey in three different organisations. Data analyses confirmed that different pull and push factors are indeed operational on different levels to predict engagement on those levels. The study found empirical support for the hypotheses that the three engagement constructs were related to engaging climate. All four ROs were subsequently achieved. The overall research aim of the study, namely, to establish if employee engagement can be operationalised as a multi-role, multi-level construct, is hereby achieved.

Acknowledgements

Competing interests

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

Authors' contributions

M.J. conducted the research and reported this in his PhD study. G.R. wrote the article based on the results obtained from M.J.'s PhD study.

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