

Psychological capital and work engagement in relation to employee commitment in a South African manufacturing organisation

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Abstract

The present article investigated the psychological capital and work engagement in relation to employees' commitment. The psychological capital was measured by the Psychological Capital Questionnaire; work engagement by the Utrecht Work Engagement Scale; and employee commitment by the Organisational Commitment Scale. The sample comprised 81 employees within a South African manufacturing organisation. Hierarchical moderator regression was used to analyse the data.

The results showed that psychological capital predict work engagement and employee commitment relationships. This research provides implications for Human Resources practitioners when recruiting and developing the human capital pool from various demographic groups, organisations and HR practitioners need to recognise the importance of psychological capital in influencing workers' psychological attachment, productivity and competitive advantage.

Key phrases

manufacturing organisation; organisational commitment; psychological capital; work engagement

1. INTRODUCTION

Organisations nationwide strive to retain skilled individuals who are committed and perform effectively (Mitonga-Monga & Cilliers 2016:36). Committed employees tend to show loyalty and identify themselves with the organisational goals and values (Mitonga-Monga & Cilliers 2015:242). Organisational commitment refers to the nature of workers' attachment to their organisations (Simons & Buitendach 2013:3) and to the workers' identification with and participation in a particular organisation (Mitonga-Monga, Flotman & Cilliers 2016:327).

Work engagement is defined as a positive, fulfilling, work-related state of mind that leads workers to invest themselves emotionally, cognitively, physically and enthusiastically in their daily work (Mitonga-Monga & Cilliers 2015:243; Schaufeli & Bakker 2004:295).

Psychological Capital (PsyCap) refers to an individual's psychological resources and capacities that are positive and enduring to some extent (Avey, Reichard & Luthans 2011:127-152). Previous studies have established that PsyCap relates positively to extra-role behaviour, job satisfaction and organisational commitment, and decreases employees' intention to resign from their jobs (Hur, Rhee & Ahn 2016:477- 500; Luthans, Norman, Avolio & Avey 2008:225).

Subsequently, PsyCap has been found to increase employees' levels of work engagement, loyalty and intention to stay (Simons & Buitendach, 2013:1). The meta-analytic studies report that there are studies linking to satisfaction outcomes. Although researchers evidenced the link between employees' perceptions of PsyCap and other work-related outcomes in Western countries (Avey et al. 2011:129), there is a paucity of research in examining how employees' perceptions of PsyCap and work engagement influence their level of organisational commitment in a South African (SA) manufacturing setting.

This is a significant shortcoming that needs to be addressed; therefore, the goal of this study is to investigate how perceptions of PsyCap and work engagement of employees of South African (SA) manufacturing organisations affect their level of work engagement and commitment. This study contributes to the debate on the field by exploring a pathway leading from PsyCap, work engagement and organisational commitment. These speak to the under-addressed issue concerning the nature of the mechanisms that motivates the link between

PsyCap and employees' psychological and attitudinal outcomes (Simons & Buitendach 2013:2).

2. RESEARCH CONTEXT

This study takes place in a South African (SA) manufacturing company. South Africa, 22 years' post-apartheid, is a complex and multi-dimensional country (Herbst & Mills 2015:248). The post-apartheid progress should be acknowledged for holistic understanding before the presentation of the current economic challenges and realities. Since 1994, the provision of three million homes, potable water and health clinics in rural areas, widespread electrification of townships, the development of local and national infrastructure, the introduction of free health care, the opening of schooling and tertiary education for all, and the creation of an efficient and capable tax system are amongst what has been established (Herbst & Mills 2015:248). It is not said that these establishments are free from challenges, but the country's progress is aptly reflected.

Since the abolishment of the apartheid, the country has still been facing various challenges such as high levels of corruption, unemployment, and an increased shortage of skilled workers, which is widely regarded as a key factor preventing the achievement of targeted growth rates (Van der Walt, Thasi & Jonck 2016:141-181).

The South African challenges have led several organisations to engage in competition for scarce technical and managerial skills. This practice has resulted in employee attraction and retention to be regarded as the greatest crises in human capital management. A development of personal resource and positive emotions and capacities such as PsyCap of employees in the organisation could contribute to the economic performance and survival of South African manufacturing in perpetual decline. Thus, the effects of PsyCap in the relationship between work engagement and organisational commitment need to be scrutinised.

3. LITERATURE REVIEW

The Psychological Capital (PsyCap) model by Luthans and Youssef (2004:143-160), the Utrecht work engagement (WE) model by Schaufeli, Salanova, González-Romá & Bakker

(2002:71-92) and the organisational commitment (OC) model by Allen and Meyer (1996:252-276) provide the theoretical and empirical ground for this study.

3.1 Psychological capital (PsyCap)

PsyCap is seen as a core concept in the positive organisational behaviour (POB) literature (Du Plessis & Barkhuizen 2012:16). Psychological capital is considered an important composite construct that can help in addressing human capital issues in organisations. According to Luthans et al. (2010:41-67), PsyCap places emphasis on the positive nature and strengths of an employee and the role that he or she has in stimulating levels of growth and productivity. Luthans and Yousef (2017:340) define PsyCap as “an individual’s positive appraisal of circumstances and probability for success based on motivated effort and perseverance”.

It consists of four psychological abilities (Luthans & Avolio 2014:125-129), namely

- self-efficacy - which refers to an individual’s positive beliefs, thoughts and feelings about his/her personal capabilities to succeed at challenging tasks;
- hope - which refers to a positive emotional state that helps to achieve the intended goal through various means;
- resilience - which refers to the capacity to rebound or bounce back from (and beyond) the adversity, setback and failure to attain success and
- optimism - which is the extent to which an individual makes positive attributions about succeeding or the individual’s expectations that good and positive things will take place in the future (Luthans, Avey, Avolio & Peterson 2010:44-67).

Previous studies have shown that PsyCap influences employees’ related outcomes such as work engagement, extra-role behaviour, satisfaction and commitment (Avey, Wernsing & Luthans 2008:50; Beal, Stavros & Cole 2013:2; Luthans & Youssef 2017:339-366; Simons & Buitendach 2013:1). Employees who are self-efficacious, hopeful, optimistic and resilient generally tend to be energetic, enthusiastic and engrossed in their work. Under these circumstances they will be engaged and committed to the organisation. Employees who are high in PsyCap are likely to be work-engaged, and show loyalty and stays with the organisation.

3.2 Work engagement (WE)

WE is a topic of relevance and interest for academic and practitioners (Buitendach, Bobat, Muzvidziwa & Kanengoni 2016:1-23). Many researchers have defined WE in different ways, which have a wide range of applications within and across context (Pourbarkhordari, Zhou & Pourkarimi 2016:243-261). WE is perceived as an individual vigorously associated to others in the service of the work they are doing in a way that displays what they think and feel, their creativity, their beliefs and values, and their personal relations to others (Shuck, Nimon & Zigarmi 2017:79-112).

Thus, WE refers to the employees who connect themselves physically, cognitively and emotionally to their work role, and who involve personally in work accomplishment (Buitendach et al. 2016:53). Schaufeli et al. (2002:74) define WE as a “positive, fulfilling, and work-related state of mind that is characterised by vigour, dedication and absorption”. Schaufeli and colleagues have designed a WE model, which comprises three important key elements (Schaufeli et al. 2002:75):

- *Vigour* - which refers to high levels of energy and mental resilience while working, as well as a willingness to exert effort and to persist even through difficult times;
- *Dedication* - which refers to a sense of significance, enthusiasm, inspiration, pride and challenge; and
- *Absorption* - which is characterised by a tendency to concentrate fully and to be intensely immersed in work: time passes quickly and one battles to detach oneself from one's work (Lekutle & Nel 2012:641).

Previous studies report that WE helps predict employees' work-related outcomes, organisational success and financial performance (Bakker & Leiter 2010:3; Richman 2006:37). This implies that work-engaged individuals are likely to be energetic, enthusiastic and deeply engrossed in their work. This may lead them to higher levels of performance and loyalty.

3.3 Organisational commitment (OC)

OC is a topic of interest for scholars in the field of organisational behaviour and management studies (Mitonga-Monga & Cilliers 2016:37) that tests relations, behaviours and performance

(Mehrabi, Alemzadeh, Jadidi & Mahdevar 2013:121). OC refers to an individual's willingness to contribute his or her efforts and loyalty to an organisation (Lau, Peters, Ng & Jaya 2015: 282). OC is defined as the relative strength of identification of an individual's participation in and attachment to his or her work organisation (Tekingündüz, Top, Tengilimoğlu & Karabulut 2017:523). Committed workers are likely to be dedicated and identify with the organisation's goal and values (Mitonga-Monga & Cilliers 2016:36-37). Literature identifies three fundamental key elements of OC (Allen & Meyer 1996:252). These are:

- *affective commitment* (AC) - which refers to the employee's emotional attachment to, identification with and involvement in the organisation;
- *continuance commitment* (CC) - which refers to an individual's will and commitment to continue working for the organisation in an effective manner and on a voluntary basis; and;
- *normative commitment* (NC) - which is the degree to which employees refrain from taking the risk of quitting their jobs and realising the cost of giving up the opportunities such as wage, pension rights and profit-sharing.

Previous research has shown that OC increases productivity and the intention to stay (Mitonga-Monga & Cilliers 2016:44). Committed employees are likely to feel valued, are satisfied with their job, identify with the organisation and seek to maintain their membership or employment relationship (Mitonga-Monga & Cilliers 2016:35-42).

3.4 PsyCap, WE and OC relationships

Research has produced evidence that psychological resource abilities have a positive influence on some work-related outcomes such as WE and OC (Luthans & Avolio 2014:125-129; Simons & Buitendach 2013:1). Various components of PsyCap have been shown to have positive correlations with OC (Luthans & Youssef 2017:339-366).

Empirical research by Simons and Buitendach (2013:6) found that OC correlated positively with self-efficacy, hope, resilience and optimism. Employees who are self-efficacious, encouraged, idealistic and resistant are likely to show loyalty, identify with and involve fully in accomplishing a goal of the organisation (Sinha, Talwar & Rajpal 2002:175).

WE have been found to relate positively to OC (Buys & Rothmann 2010:7). Work-engaged individuals tend to have better social functioning and psychological attachment to their organisation (Simons & Buitendach 2013:3). However, Simons and Buitendach (2013:10) assert that studies on the nature and manifestation of the relationship between PsyCap, WE and OC across different sectors still need to be explored within the South African manufacturing context.

The purpose of the present article is to address this gap in the research by identifying the links that may exist between PsyCap, WE and OC of employees in a South Africa manufacturing organisation. It also aims to establish how PsyCap influences the relationship between employees' work engagement and commitment perceptions.

The development of the psychological capacities such as PsyCap could help human resources practitioners in planning and developing interventions concerning skills and selection, coping and retention strategies. The development of PsyCap could indirectly assist with job creation for example by stimulating entrepreneurship within small and medium business enterprises, which could alleviate unemployment. Employment consultants could also help with the development of PsyCap of job seekers in order to become more resilient during this strenuous job search process and intensify their job search behaviour.

4. RESEARCH QUESTION, AIM AND CONTRIBUTION

The research question that guided this study is formulated as follows: to which extent does self-reported employee PsyCap explain differences in perceived WE and OC among workers in a South African (SA) manufacturing company? Thus the aim of this study is to examine PsyCap effects on perceived WE and OC in a SA manufacturing sector enterprise.

This study contributes at both theoretical and practical levels. Theoretically, it adds value to the body of knowledge in the discipline of industrial and organisational psychology as well as human resource management, pertaining to the association between PsyCap, work engagement and organisational commitment. Moreover, this study contributes to the practical level by providing recommendations for human resource practitioners concerning the retention of staff.

5. METHOD

5.1 Research approach

A quantitative research approach following a cross-sectional design was used in this study (Schutt 2006:181). According to Tabacknick and Fidell (2008:125), the cross-sectional design is very important and ideally suitable in describing and predicting functions, and is thus appropriate for achieving the objectives of the present study.

5.2 Participants and setting

The population for this study comprised 250 employees working within a manufacturing organisation in South Africa. A convenience sampling method was used (Tabacknick and Fidell (2008:125) resulting in a sample of 81 respondents, indicating a response rate of 32.4%. This is well above the sample size of 10% as recommended by Hanmer and Kalkan (2012:266-267), allowing for the generalisation of results to this population.

Characteristics of participants: The sample includes more males (71.6%) who are persons of colour (76.5%), which is understandable as there are more males than females working in the manufacturing organisation. 34.0% of the participants were 20–29 years old and 30.9% of the participants had a matric certificate. Of the participants, 32.1% had 2–5 years of work experience and 86.4% were permanently employed.

5.3 Measuring instruments

A demographic measure was designed for gender, race group, age, educational level, year in position, and employment status

5.3.1 *The Psychological Capital Questionnaire (PCQ)*

(Based on Luthans *et al.* 2007:541-572)

The PCQ is a 24-item self-reporting measure of employees' perceptions of PsyCap relating to the dimensions of self-efficacy, hope, optimism and resilience (Luthans & Youssef 2007:328-334). The PCQ uses a 6-point Likert scale with the response option: 1 = strongly disagree; 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 =

strongly agree. The example of the item includes hope (e.g. “at the present time, I am energetically pursuing my goals”); optimism (e.g. “I am optimistic about what will happen to me in the future as it pertains to work”); resilience (e.g. “I usually manage difficulties one way or another at work”), and self-efficacy (e.g. “I feel confident helping to set targets/goals in my work area”). Luthans and Palmer (2010:17-29) have reported on the questionnaire’s internal consistency reliability coefficient of 0.72 to 0.87 for the PCQ. The present study has obtained an internal consistency coefficient ranging from 0.50 to 0.84.

5.3.2 The Utrecht Work Engagement Scale (UWES)

(Based on Schaufeli & Bakker 2002:274-277)

The UWES is 17-items self-report questionnaire of employees’ perceptions of work engagement. The UWES comprises three subscales, namely vigour, dedication and absorption. The UWES uses a 6-point Likert scale, varying from 0 = never to 6 = always. The example of items includes: “I am bursting with energy in my work” (vigour); “I find my work full of meaning and purpose” (dedication), and “I am immersed in my work” (absorption). Storm and Rothman (2003:67) report an acceptable internal consistency Cronbach alpha coefficient ranging from 0.78 to 0.89 in a South African context. The present study has obtained a Cronbach alpha coefficient ranging from 0.76 to 0.92 for the UWES.

5.3.3 The Organisational Commitment Scale (OCS)

(Based on Meyer & Allen 1991:69-74). The works of Allen and Meyer are of the classic references in this field. One cannot write about organisational commitment without mentioning these works.

The OCS is a 24-items self-reporting measures of employee’s perceptions of organisational commitment. The OCS comprises three dimensions, namely affective commitment, continuance commitment and normative commitment. The example of items includes: “I am very happy being a member of this organisation” (affective); “I worry about the loss of investment I have made in this organisation” (continuance), and “I feel that I owe this organisation quite a bit because of what it has done for me” (normative).

Responses are measured on a 7-point Likert scale with responses ranging from 1 for strongly disagree to 7 for strongly agree. Bawole and Hossain (2017:59-77) have reported internal consistency reliability coefficients ranging from 0.74 to 0.83 for the OCS. The present study has obtained a Cronbach alpha coefficient ranging from 0.76 to 0.92 for the OCS.

5.4 Procedures

Permission to conduct the research was obtained from both the University of South Africa (Unisa) Ethics Research Review Committee and the management of the manufacturing company.

Each member of the sample received a package consisting of hard copies of the following: an information letter indicating the purpose of the study, measurement procedure, management approval letter, safekeeping and confidentiality of the responses; a separate form clarifying the individual's consent and voluntary participation to the research project, requiring his or her signature; the instruction to complete the socio-demographic information as well as the actual questionnaire.

In completion, each participant was requested to ensure that the consent form was signed before including the completed questionnaire in the envelope to be submitted to the researcher.

5.5 Statistical analysis

The data was analysed with the help of the Statistical Package for Social Sciences (SPSS 2016). The service of a qualified statistician was employed for statistical analysis. The statistician was solely responsible for statistically analysing the data, while the researcher was responsible for cleaning data as well as for the statistical analysis of the results.

Descriptive statistics and Cronbach alpha coefficients (α) were used to assess the internal consistency of the measuring instruments. A cut-off point of $p < 0.05$ was set

for the statistical significance of the results (Millsap & Maydeu-Olivares 2009:362-387). Pearson product-moment correlation coefficients were used to specify the relationship between PsyCap, WE and OC. The statistical significance levels used in this study were $p \leq 0.05$ and $p \leq 0.01$ respectively (Tabachnick & Fidell 2013:983). A cut-off point of 0.30 and 0.50 (medium to large effects; Millsap & Maydeu-Olivares 2009:362-387) were set for the practical significance of correlation coefficients.

Hierarchical multiple regressions analysis was conducted through a sequence of simple slope tests (see Chen, Cohen, West & Aiken 2013:132-139) for the regression model. Rescaled mean-centred values (Chen *et al.* 2003:136), were used for the regression analysis. In order to counter the probability of type 1 errors, the significance value was set at the 95% confidence interval level ($p \leq 0.05$). For the purpose of this study, the practical significance of the ΔR^2 values was determined by calculating effect sizes (f^2) (Millsap & Maydeu-Olivares 2009:362-387).

6. RESULTS

6.1 Descriptive statistics, Cronbach alpha coefficients and correlations

Table 1a provides an overview of the descriptive statistics, means, standard deviations, skewness and kurtosis, as well as the Cronbach alpha coefficients of PCQ, UWES and the OCS. As can be observed from Table 1a, the participants obtained relatively high scores on UWES dedication ($M = 4.82$; $SD = 1.31$), UWES vigour ($M = 4.74$; $SD = 1.20$), PCQ hope ($M = 4.68$; $SD = 0.83$), overall work engagement ($M = 4.64$; $SD = 1.13$), OCS affective commitment ($M = 4.62$; $SD = -1.04$), PCQ self-efficacy ($M = 4.58$; $SD = 1.09$), overall OCS organisational commitment ($M = 4.57$; $SD = 0.75$), overall PCQ psychological capital ($M = 4.03$; $SD = 0.66$), ECQ caring ($M = 4.02$; $SD = 0.60$), JSQ satisfaction with work itself ($M = 4.51$; $SD = 0.65$), PCQ resilience ($M = 4.45$; $SD = 0.76$), UWES absorption ($M = 4.38$; $SD = 1.21$), and PCQ optimism ($M = 4.31$; $SD = 0.82$) subscales respectively.

Except for OCS affective, continuance commitment and PCQ resilience and optimism, other variables of PCQ, UWES and OCS had acceptable Cronbach alpha coefficients ranging from 0.73 to 0.92.

TABLE 1a: Means, standard deviations and correlations

Variables	M	SD	α	1	2	3	4	5	6	7	8
Overall PCQ	4.51	0.65	0.84	1							
Self-efficacy	4.58	1.09	0.83	0.85***	1						
Hope	4.68	0.83	0.73	0.78***	0.66***	1					
Resilience	4.45	0.76	0.50	0.65***	0.36**	0.38**	1				
Optimism	4.31	0.82	0.62	0.62***	0.36**	0.21*	0.27*	1			
Overall UWES	4.64	1.13	0.92	0.50***	0.50***	0.51***	0.20*	0.23*	1		
Vigour	4.74	1.20	0.82	0.55***	0.53***	0.52***	0.23*	0.30**	0.93***	1	
Dedication	4.82	1.31	0.81	0.53***	0.50***	0.51***	0.23*	0.27*	0.92***	0.84***	1
Absorption	4.38	1.21	0.78	0.31***	0.35**	0.35**	0.08	0.06	0.89***	0.74***	0.70***
Overall OCS	4.57	0.75	0.76	0.45**	0.50***	0.30**	0.12*	0.33**	0.54***	0.52***	0.52***
Affective commitment	4.62	1.07	0.69	0.56***	0.49**	0.40**	0.29*	0.43**	0.54***	0.58***	0.51***
Continuance commitment	4.53	0.97	0.59	0.12*	0.27*	0.05	-0.10*	0.05	0.18*	0.08	0.16*
Normative commitment	4.53	0.88	0.52	0.30**	0.39**	0.19*	0.03	0.23*	0.47**	0.46**	0.47**

Notes: N = 81. *** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$; + $r \geq 0.30 \leq 0.49$ (medium practical effect size); ++ $r \leq 0.50$ (large practical effect size). Note: M = mean; SD = standard deviations; and α = Cronbach's alpha coefficients

Source: Calculated from survey results

TABLE 1b: Means, standard deviations and correlations

Variables	M	SD	α	9	10	11	12	13
Overall PCQ	4.51	0.65	0.84					
Self-efficacy	4.58	1.09	0.83					
Hope	4.68	0.83	0.73					
Resilience	4.45	0.76	0.50					
Optimism	4.31	0.82	0.62					
Overall UWES	4.64	1.13	0.92					
Vigour	4.74	1.20	0.82					
Dedication	4.82	1.31	0.81					
Absorption	4.38	1.21	0.78	1				
Overall OCS	4.57	0.75	0.76	0.45**	1			
Affective commitment	4.62	1.07	0.69	0.39**	0.74***	1		
Continuance commitment	4.53	0.97	0.59	0.26*	0.65***	0.06	1	
Normative commitment	4.53	0.88	0.52	0.38**	0.88***	0.49**	0.57***	1

Notes: N = 81. *** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$; + $r \geq 0.30 \leq 0.49$ (medium practical effect size); ++ $r \leq 0.50$ (large practical effect size). Note: M = mean; SD = standard deviations; and α = Cronbach's alpha coefficients

Source: Calculated from survey results

Pearson product-moment correlation coefficients were used in order to determine the strength of the relationship between the constructs of the present study. Table 1a

reports the correlations between the psychological capital (PCQ), work engagement (UWES) and organisational commitment (OCS).

6.1.1 *The relationship between the Psychological Capital Questionnaire, the Utrecht Work Engagement Scale and the Organisational Commitment Scale (overall scores)*

Table 1a shows that positive statistically and practically significant relationships were found between PsyCap (self-efficacy, hope, resilience and optimism) and work engagement (vigour dedication and absorption), ($p \leq 0.01$; $r = 0.50$).

In addition, a positive statistically and practically significant relationship was found between PsyCap and organisational commitment (affective, continuance and normative commitment), ($p \leq 0.01$; $r = 0.45$).

Furthermore, a statistically and practically significant relationship was found between overall work engagement and overall organisational commitment ($p \leq 0.01$; $r = 0.54$).

6.1.2 *The relationship between Psychological Capital Questionnaire and the Utrecht Work Engagement Scales (sub-dimensions)*

Positive statistically and practically significant relationships were found between overall PsyCap and vigour, dedication and absorption ($p \leq 0.01$; $r = 0.55$, 0.53 and 0.31 respectively). In addition, a positive statistically and practically significant relationship was found between overall work engagement and self-efficacy ($p \leq 0.01$; $r = 0.50$) and optimism ($p \leq 0.01$; $r = 0.51$).

On further inspection of the subscales of PsyCap and work engagement, positive statistically and practically significant relationships were found between vigour and self-efficacy ($p \leq 0.01$; $r = 0.53$), hope ($p \leq 0.01$; $r = 0.52$) and optimism ($p \leq 0.01$; $r = 0.30$). Positive statistically and practically significant relationships were found between dedication and self-efficacy ($p \leq 0.01$; $r = 0.50$), and hope ($p \leq 0.01$; $r = 0.51$). Positive statistically and practically significant relationships were found

between absorption and self-efficacy ($p \leq 0.01$; $r = 0.35$) as well as hope ($p \leq 0.01$; $r = 0.35$).

6.1.3 *The relationship between the Psychological Capital Questionnaire and the Organisational Commitment Scale (sub-dimensions)*

Table 1a shows that positive statistically significant relationships were found between overall organisational commitment and self-efficacy ($p \leq 0.01$; $r = 0.50$), hope and optimism ($p \leq 0.01$; $r = 0.30$ and 0.33 , respectively).

In addition, Table 1 indicates that positive statistically and practically significant relationships were found between affective commitment and self-efficacy ($p \leq 0.01$; $r = 0.49$), hope ($p \leq 0.01$; $r = 0.40$) as well as optimism ($p \leq 0.01$; $r = 0.43$). Positive statistically and practically significant relationship was found between normative commitment and self-efficacy ($p \leq 0.01$; $r = 0.39$).

6.1.4 *The relationship between the Utrecht Work Engagement Scale and Organisational Commitment Questionnaire*

Table 1a shows positive statistically and practically significant relationships between overall work engagement and affective commitment ($p \leq 0.01$; $r = 0.43$). A further inspection of Table 1a shows that positive statistically and practically significant relationships were found between overall organisational commitment and vigour, dedication and absorption ($p \leq 0.01$; $r = 0.52$, 0.52 and 0.45 respectively).

Statistically positive and practically significant relationships were found between affective commitment and vigour, dedication and absorption ($p \leq 0.01$; $r = 0.58$, 0.51 and 0.39 respectively), as well as between normative commitment and vigour, dedication and absorption ($p \leq 0.01$; $r = 0.46$, 0.47 and 0.38 respectively).

The findings reported above support the following: firstly, that PsyCap is related to positively work engagement (vigour, dedication and absorption); secondly, that PsyCap is related to organisational commitment (affective, continuance and

normative commitment), and thirdly, that work engagement is related to organisational commitment (affective commitment).

6.2 Hierarchical moderator regression analysis

The slope test focuses on the slope of the regression line to determine whether the relationship between the dependant and independent variables are significant (Montgomery, Peck & Vining 2015:63).

The most significant finding of the slope test analysis was that psychological capital consistently moderated the relationship between employees' work engagement and organisational commitment variables.

The results showed that employees' work engagement/organisational commitment relationship was stronger for participants with a high perception of self-efficacy, hope, resilience and optimism than those participants with a low perception of self-efficacy, hope, resilience and optimism.

Figures 1 to 7 that follow elucidate the moderating effect of psychological capital variables on the relationship between employees' work engagement and organisational commitment.

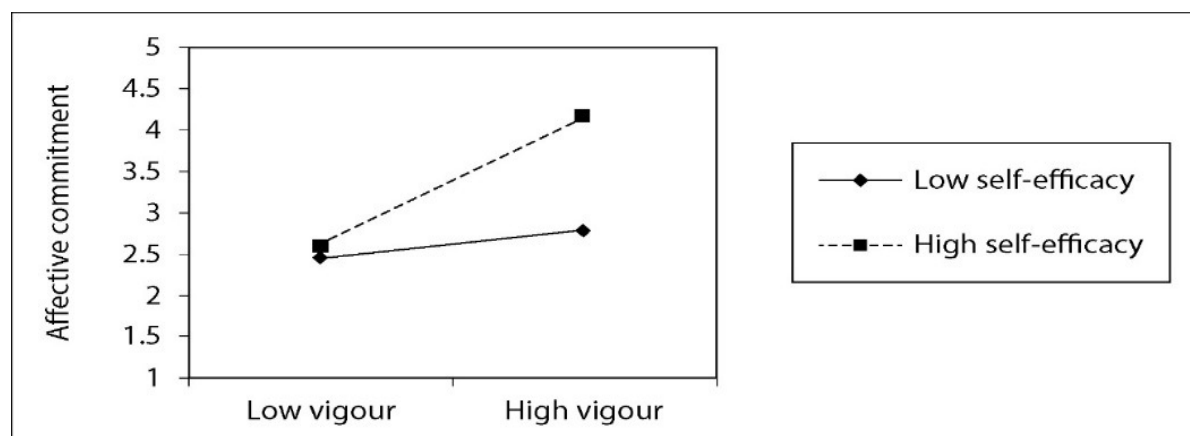


FIGURE 1: Interaction effect between self-efficacy, vigour and affective commitment

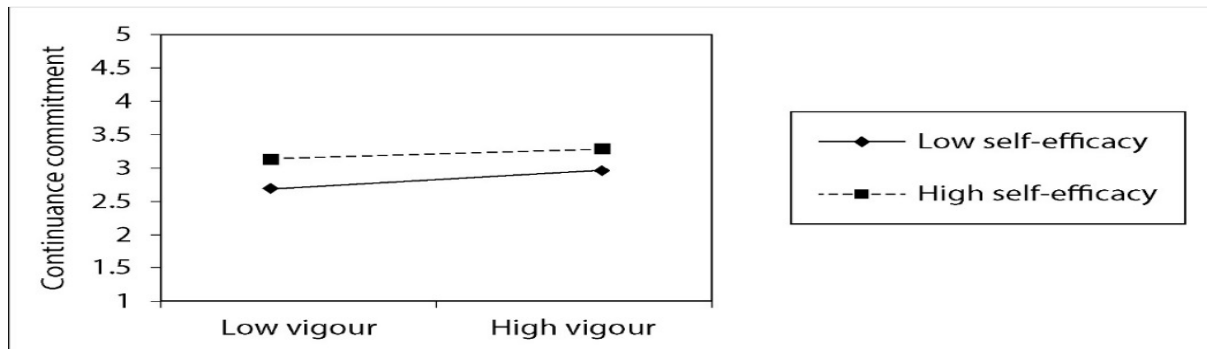


FIGURE 2: Interaction effect between self-efficacy, vigour and continuance commitment

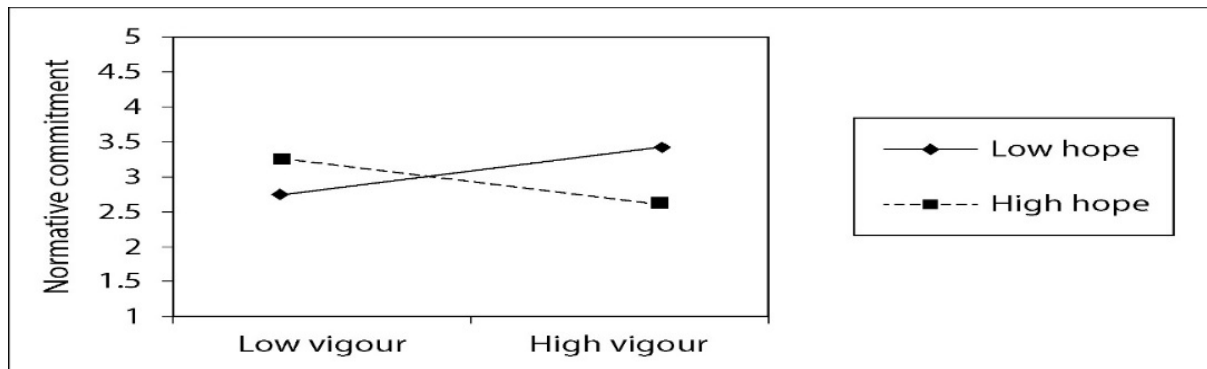


FIGURE 3: Interaction effect between hope, vigour and normative commitment

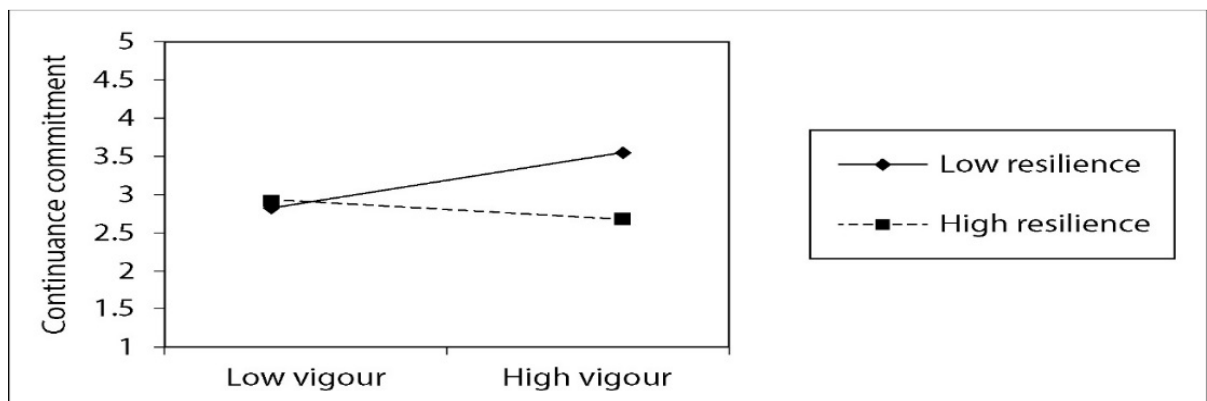


FIGURE 4: Interaction effect between resilience, vigour and continuance commitment

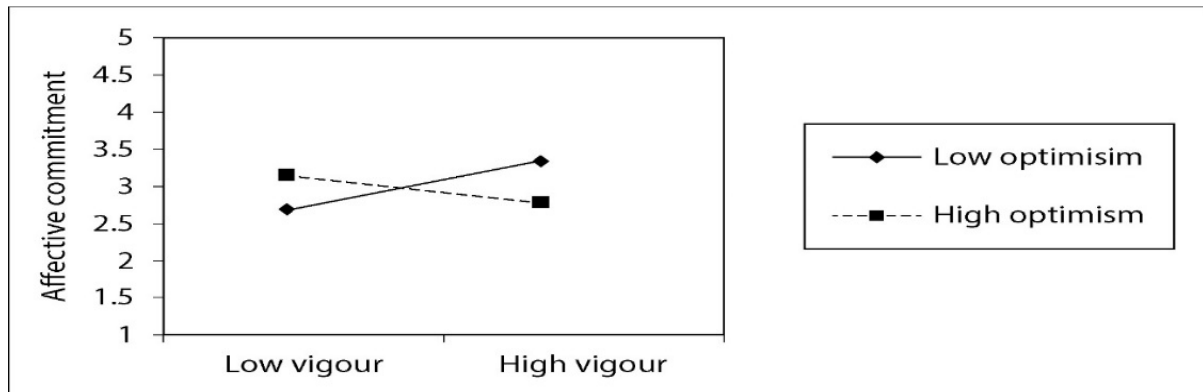


FIGURE 5: Interaction effect between optimism, vigour and affective commitment

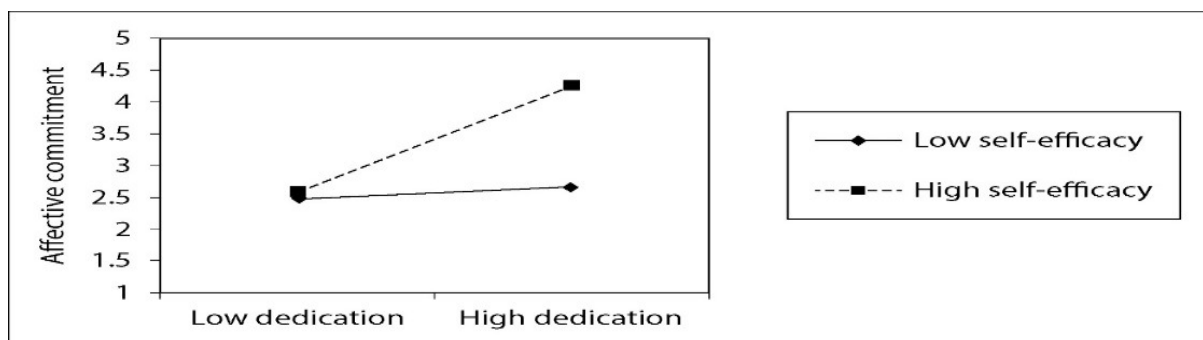


FIGURE 6: Interaction effect between self-efficacy, dedication and affective commitment

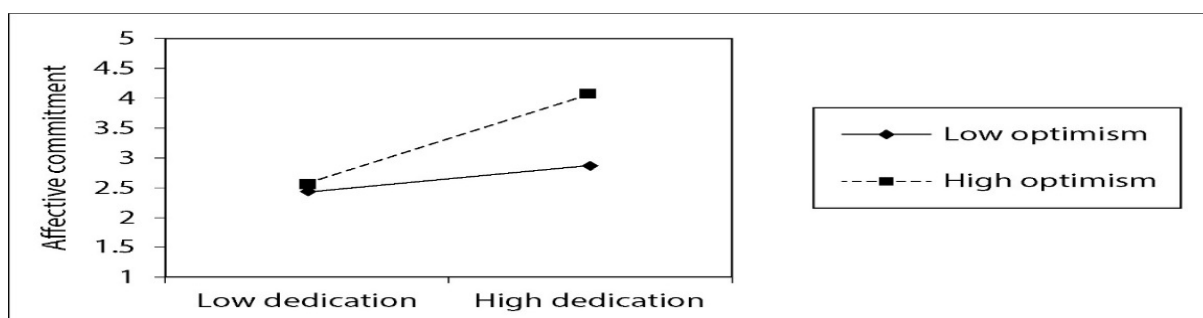


FIGURE 7: Interaction effect between optimism, dedication and affective commitment

Source: all figures calculated from survey results

**6.2.1 Moderated regression analysis examining the interaction-effects
between self-efficacy, hope, resilience, optimism PCQ and vigour UWES
on affective continuance and normative commitment (OCS)**

Table 2 shows the interactions between the self-efficacy PCQ and vigour UWES variables ($\beta = .31$; $p \leq 0.01$). The R^2 change was significant ($R^2 = 0.07$; $f^2 \geq 0.8$; small practical effect; $p \leq 0.01$) in each of the regression models. Higher perceptions of self-efficacy PCQ predicted vigour and affective commitment.

**TABLE 2: Moderated regression analysis examining the interaction effects
between the self-efficacy, hope, resiliency, and optimism (PCQ)
and vigour (UWES) on affective, continuance and normative
commitment (OCS)**

Model	Predictor variable	β	b	SE	ΔR^2	Total R^2	f^2
1. AC (constant)	Vigour	0.47***	0.42	0.09			
	Self-efficacy	0.38**	0.37	0.11	0.07**	0.43***	
	Vigour \times Self-efficacy	0.31**	0.19	0.06	$\Delta F:10.07$	F:255.24	0.8
2. CC (constant)	Vigour	-0.11	-0.09	0.10			
	Self-efficacy	-.0.19	0.17	0.12	0.06*	0.10*	
	Vigour \times Self-efficacy	0.19*	0.02	0.07	$\Delta F:5.04$	F:3.89	11.1
3. AC (constant)	Vigour	0.54***	0.48	0.10			
	Hope	0.19	0.25	0.14	0.03	0.35***	
	Vigour \times Hope	0.18	0.15	0.09	$\Delta F:3.04$	F:15.14	0.5
4. CC (constant)	Vigour	0.11	0.09	0.09			
	Resilience	-0.19	-0.25	0.15	0.06*	0.05	
	Vigour \times Resilience	-0.25*	-0.21	0.09	$\Delta F:4.92$	F:2.33	0.05

Model	Predictor variable	β	b	SE	ΔR^2	Total R ²	f ²
5 AC (constant)	Vigour	0.49***	0.40	0.08			
	Optimism	0.38***	0.49	0.12	0.06***	0.39***	
	Vigour × Optimism	0.27*	0.23	0.08	$\Delta F: 8.10$	F: 18.27	0.6

Notes: N = 81; *** p ≤ 0.001; ** p ≤ 0.01; * p ≤ 0.05. Δ, delta; β, standardised regression coefficient; b non-standardised regression coefficient; SE, standard error; f², effect size estimate for the interaction term; Beta values are mean-centred. All statistics are from the final (second) step

Source: Calculated from survey results

Table 2 then shows the interactions between self-efficacy PCQ and vigour ($\beta = -0.19$; p ≤ 0.01). The R² change was significant (R² = 0.06; f² ≥ 11.1; small practical effect; p ≤ 0.01) in each of the regression models. Higher perceptions of self-efficacy PCQ predicted vigour and continuance commitment.

Table 2 also shows the interactions between hope PCQ and vigour ($\beta = -.54$; p ≤ 0.01). The R² change was significant (R² = 0.03; f² ≥ 0.5; small practical effect; p ≤ 0.01) in each of the regression models. Higher perception of hope PCQ predicted vigour and normative commitment.

In addition, Table 2 shows the interactions between resiliency PCQ and vigour ($\beta = -0.25$; p ≤ 0.01). The R² change was significant (R² = 0.06; f² ≥ 0.5; small practical effect; p ≤ 0.01) in each of the regression models. Higher perception of resiliency PCQ predicted vigour and continuance commitment.

Table 2 shows the interactions between optimism PCQ and vigour ($\beta = .27$; p ≤ 0.01). The R² change was significant (R² = 0.06; f² ≥ 0.6; small practical effect; p ≤ 0.01) in each of the regression models. Higher perceptions of optimism PCQ predicted vigour and affective commitment.

6.2.2 Moderated regression analysis examining the interaction-effects between self-efficacy, and optimism PCQ and dedication UWES on affective commitment (OCS)

Table 3 shows the interactions between self-efficacy PCQ and dedication UWES ($\beta = 0.36$; $p \leq 0.01$). The R2 change was significant ($R^2 = 0.09$; $f^2 \geq 0.7$; small practical effect; $p \leq 0.01$) in each of the regression models. Higher perceptions of self-efficacy PCQ predicted dedication and affective commitment.

Table 3 shows the interactions between optimism PCQ and dedication ($\beta = .27$; $p \leq 0.01$). The R2 change was significant ($R^2 = 0.06$; $f^2 \geq 0.6$; small practical effect; $p \leq$ predicted dedication and affective commitment.

TABLE 3: Moderated regression analysis examining the interaction effects between self-efficacy and optimism (PCQ) and dedication (UWES) on affective commitment (OCS)

Model	Predictor variable	β	b	SE	ΔR^2	Total R ²	f ²
1. AC (constant)	Dedication	0.47***	0.38	0.09			
	Self-efficacy	0.45***	0.44	0.11	0.09*	0.40**	
	Dedication × Self-efficacy	0.36**	0.20	0.06	$\Delta F:11.51$	F:18.61	0.07
2 AC (constant)	Dedication	0.49***	0.40	0.08			
	Optimism	0.38***	0.49	0.12	0.06***	0.39***	
	Dedication × Optimism	0.27*	0.23	0.08	$\Delta F:8.10$	F:18.27	0.06

N = 81; *** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$. Δ , delta; β , standardised regression coefficient; b non-standardised regression coefficient; SE, standard error; f², effect size estimate for the interaction term; Beta values are mean-centred. All statistics are from the final (second) step.

Source: Calculated from survey results

7. DISCUSSION

The purpose of this research was to examine the relationship between PsyCap, work engagement and organisational commitment amongst South African manufacturing employees, and also determine whether PsyCap moderates the relationship between work engagement and organisational commitment of manufacturing organisation employees.

The majority of participants in this research were men of colour at a relatively early stage of their career 20–29 years of age. A section (30.9%) of respondents had a G12 and 86.42% were permanently employed with two to five years of experience in the manufacturing organisation. It is important to mention that 32.1% of respondents have worked in the manufacturing organisation before, possibly suggesting that employees tend to extend their employment with the manufacturing organisation.

A significant relationship was found between PsyCap, work engagement and organisational commitment. Specifically, PsyCap moderated the association between employees' work engagement and organisational commitment so that, when employees' perceptions of their PsyCap were high, their self-reported work engagement and organisational commitment were also high. These findings were consistent with those of previous research, which reported employees' perceptions of their personal resources to be important for the functioning and effectiveness of the organisation (Fredrickson 2003:164-175; Simons & Buitendach 2013:1-12).

The findings are likely explained by the fact that employees who are self-efficacious have the will and viable means to accomplish specific goals. Employees who make positive attributions about current and future success and who are able to have positive adaptation to challenging circumstances will likely be engaged in their work task and reciprocate with higher organisational commitment (Paek, Schuckert, Kim & Lee 2015:9-26; Simons & Buitendach 2013:7). Employees who are self-efficacious, hopeful, optimistic and resilient will more likely feel energetic, enthusiastic, proud and happily engrossed in their work task. This, in turn, may cause them to be emotionally and cognitively attached to the organisation (Avey, Wernsing & Luthans 2008:48-70; Simons & Buitendach 2013:8).

The results suggest PsyCap moderate employees' psychological attachment to their organisation and also their dedication, loyalty, work continuation intention as well as feeling

obligated to stay in the organisation (Avey et al. 2008:68; Shahnawaz & Jafri 2009:78-84; Simons & Buitendach 2013:1-12). This might be explained by the fact that, when employees are high in positive resources, experience positive emotions or PsyCap core constructs of self-efficacy, hope, optimism and resilience, they might respond with higher levels of work engagement and commitment to the organisation. Furthermore, the present finding indicated that work engagement and organisational commitment were related positively to each other. Avey et al. (2008:55) and Karatepe and Karadas (2015:1254-1278) and Schaufeli and Bakker (2004:293-315) showed that the experience of engagement is described as being a positive work-related experience and state of mind. Positive experience of emotions is likely to lead to positive work-related outcomes (e.g., better employment relationships).

The authors further argue that work-engaged individuals are likely to demonstrate higher level of loyalty, continuation intention to stay and of high feelings of obligation to stay in the organisation (Avey et al. 2008:48-70; Karatepe & Karadas 2015:1254-1278). Employees who are high in PsyCap will more likely be work-engaged, show greater attachment to their organisation and a lower tendency to leave their organisation. The findings of this study support international research studies that have found PsyCap to influence employees' work engagement and organisational commitment (Schaufeli & Bakker 2004: 300; Luthans & Youssef 2017:339-366).

To sum up, this study supports the cognitive mediation theory (Simons & Buitendach 2013:1-12) of workers' emotions in the workplace setting. It conveys a better understanding that employees' psychological belief, expectancies and appraisal (self-efficacy, hope, resiliency and optimism) may be seen as positive emotions that boost employees' psychological and attitudinal factors such as engagement and commitment.

7.1 Implications of the results

This study adds value to the theoretical and practical implications with regard to the field of positive psychology in a workplace setting. Theoretically, it adds value to the positive resource capacities of South African employees of manufacturing organisations. The study also contributes to the theoretical debates of PsyCap and its relatedness with some organisational outcomes such as work engagement and organisational commitment. Furthermore, the study emphasises the importance of PsyCap dimensions of self-efficacy,

hope, optimism and resilience and their influence on vigour, dedication and absorption as well as on affective, continuance and normative commitment.

The findings in this study indicate that positive relationships exist between employee work engagement and their level of organisational commitment, and that PsyCap has influenced this relationship. Practically, organisations that foster these relationships to attract and facilitate efficiency and positive psychological well-being among workers should invest in the development of PsyCap (Avey, Luthans, Smith & Palmer 2010:17-29; Avey, Luthans & Youssef 2010:430-452; Simons & Buitendach 2013:1-12).

Furthermore, optimism was found to be associated with organisational commitment. This finding is important in that HR practitioners should focus on optimism training interventions. Optimism as a personal resource can be developed to have a positive attitudinal outcome such as organisational commitment. Avey, Luthans and Youssef (2010:430-452) maintain that the development of PsyCap among workers may lead to good psychological health and anticipate future performance and decreases employees' turnover intention. Lastly, the use of PsyCap measure may assist and inform HR practitioners in the selection of suitable candidates and retention strategies in a manufacturing company.

7.2 Limitations and future research

This study was not without limitations.

Firstly, with the cross-sectional survey method used, it was not possible to ensure causality among variables.

Secondly, because the research was conducted on a non-probability sample of employees in only one South African manufacturing organisation with a relatively small sample size of 81, it was not possible to generalise the results to other occupational settings.

Thirdly, low reliability of residency, optimism and affective, continuance and normative commitment may be caused by the use of a self-reported questionnaire. According to Strydom (2011:149-164), self-reported questionnaires are a preferred method of data collection, as they may lead to response biases, which can affect the reliability and validity of the data. Social desirability is one of the response biases that affect the results of studies that make use of self-reported questionnaires (Babbie 2011:37-46).

It is recommended that future studies make use of the longitudinal design to determine the causality connection or association among the variables of the study. Future studies can make use of large samples from different occupational settings. We also recommend that future studies try to investigate if PsyCap can moderate the relationship between ethical leadership and some work-related attitudes such as job satisfaction, empowerment organisational citizenship behaviour and retention factors.

8. CONCLUSION

This research suggests that higher levels of PsyCap in workers influence their levels of work engagement and commitment to their organisation. It is crucial that leaders, managers and human resource practitioners do not ignore PsyCap in their day-to-day routine, as this will help ensure their long-term survival and excellence.

These research findings benefit all domains in the manufacturing organisation involved in the study, and pave the way for developing intervention programmes to enhance individual resources and capacities, such as the PsyCap of employees within a manufacturing organisation. This will lead to their being productive workers who are psychologically and emotionally attached to their organisation.

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